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NEW DIMENSIONS IN RURAL POLICY: BUILDING UPON OUR HERITAGE

STUDIES

PREPARED FOR THE USE OF THE

SUBCOMMITTEE ON AGRICULTURE AND TRANSPORTATION

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

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LETTER OF TRANSMITTAL

May 8, 1986.

Hon. **David R. Obey**,
Chairman, Joint Economic Committee, Congress of the United States, Washington, DC.

Dear Mr. Chairman: I am pleased to transmit a rural policy issues publication entitled "New Dimensions in Rural Policy: Building Upon Our Heritage." This volume is comprised of 65 studies submitted by scores of noted scientists and experts on the rural economy and society.

This publication is a supplement to the hearing record compiled as part of my ongoing rural initiative, entitled "The Economic Evolution of Rural America," undertaken by this Committee's Agriculture and Transportation Subcommittee.

"New Dimensions in Rural Policy" is dedicated to members of the volunteer Abdnor Task Force on the South Dakota Economy, whose guidance and recommendations were instrumental to this rural initiative, and to the authors whose willingness to participate made this publication possible.

Editors of this project were Dale Jahr, Senior Economist, Jerry W. Johnson, Economist on leave from the University of South Dakota, and Ronald C. Wimberley, Professional Staff Member on leave from North Carolina State University, where he is professor of sociology. Particular thanks is given to Ken Deavers and David Brown and the entire Economic Research Service staff at the Department of Agriculture.

The views presented herein are those of the authors. Members of the Joint Economic Committee do not necessarily endorse either the opinions or recommendations cited in the papers.

Sincerely,

James Abdnor,
Vice Chairman,
Joint Economic Committee.

CONTENTS

Page

Letter of Transmittal III

NEW DIMENSIONS IN RURAL POLICY: BUILDING UPON OUR HERITAGE

Introduction by Senator James Abdnor 1

I. PERSPECTIVE

Rural America in Transition—Don Paarlberg 9

Reflections on Economic Policy for Rural America—Harold F. Breimyer 13

Social Issues Impacting Agriculture and Rural Areas as We Approach the 21st Century—Don A. Dillman 19

Agricultural and Rural Policy: A Historical Note—Wayne D. Rasmussen 32

II. PROFILE

Agricultural and Rural Transition—Ronald C. Wimberley 39

Metropolitan and Nonmetropolitan Population Growth in the United States Since 1980—Calvin L. Beale and Glenn V. Fuguitt 46

Rural-Urban Differences in Mortality in the United States, 1970 to 1980—William B. Clifford, Michael K. Miller, and C. Shannon Stokes 63

Population Growth and Economic Development in New England—A.E. Luloff and George E. Frick 71

An Income Comparison of Farm and Nonfarm People—Mary Ahearn 79

Social Dimensions of Farmland Ownership in the United States—Craig K. Harris, Jim McAllister, and Jess Gilbert 89

America's Farm Population: Historical Changes and Recent Trends—A. Wayne Lacy and Donald W. Bogie 98

The People of Rural America—Conrad Taeuber 114

III. EMPLOYMENT

Patterns of Change in the Nonmetro and Metro Labor Force Since 1979—Herman Bluestone and John Hession 121

Underemployment in Nonmetropolitan America, 1970 to 1982—Daniel T. Lichter and Janice A. Costanzo 134

Employment in Rural America in the Mid-1980's—Departments of Agriculture and Labor 144

Two Sides of the Sunbelt: Economic Development in the Rural and Urban South—Thomas A. Lyson and William W. Falk 158

IV. AGRICULTURE

Monetary-Fiscal Policy Linkages to Agriculture and the Rural Economy—Luther Tweeten 167

Effects of Trade and Macroeconomic Policies on Agriculture—Leroy J. Hushak 176

Implications of Agricultural Adjustments for the U.S. Economy—Fred C. White 185

America's Three Agricultures—Ronald C. Wimberley 192

Agriculture's Role in the Economic Structure of Rural America—Mindy F. Petrulis and Bernal L. Green 200

A Farm Policy Alternative—I.M. Baill 214

Page
Food Security in the United States: Myth or Reality—William B. Lacy and Lawrence Busch 222
Biotechnology and the Future of Rural America—Frederick H. Buttel 234

V. SOCIETY AND ECONOMY

FAMILY

Changing Family Farms and Rural Community Relationships—Sonya Salamon 245
Rural Families: Stereotypes and Reality—Gary R. Lee 253
Back to the Future: Rural Aging Policy at the Crossroads—American Association of Retired Persons 260

FARMS

The Farm Crisis and the Rural Community—William D. Heffernan and Judith B. Heffernan 273
Analysis of Farmers Leaving Agriculture for Financial Reasons: Summary of Survey Results From 1984—Daniel Otto 281
Implications of Farm Change for a Farm State—Gordon Bultena, Willis Goudy, Eric Hoiberg, Gerald Klonglan, Peter Korsching, Paul Lasley, Frederick Lorenz, Steven Padgitt, Vernon Ryan, Stephen Sapp, John Tait, and Betty Wells 288
Impact of the Farm Financial Crisis on Agribusiness Firms and Rural Communities—Roger G. Ginder, Kenneth E. Stone, and Daniel Otto 298
Understanding the Synergistic Link Between Rural Communities and Farming—Ron Shaffer, Priscilla Salant, and William Saupe 308
Agriculture, Communities, and Urban Areas—Robert L. Moxley 322

COMMUNITY

Rural Community Development—Gene F. Summers 333
Communities Left Behind—Again—Kenneth P. Wilkinson 341
Rurality, Community, and Service Delivery—H. Max Miller 347
Social Policy, Social Services, and the Rural Way of Life—Nelson Reid 353
Forestry and Rural Community Development—Maurice E. Voland 361
Linkage in Rural Areas—Terry Tomazic 365
Local Governments in Rural and Small Town America: Diverse Patterns and Common Issues—Alvin D. Sokolow 372
Public Policy and Rural Infrastructure—John M. Wardwell 380
Rural Infrastructure: A Look at the Policy Issues—Patrick J. Sullivan and J. Norman Reid 388
Rural Roads and Bridges—George L. Berg, Jr 396

BUSINESS

Small Business and the Fate of the Rural Economy—John Sloan, Jr 403
Commercial Banking Systems Serving Rural Counties: Their Current Structure and Future Prospects—James J. Mikesell, Daniel L. Milkove, and Patrick J. Sullivan 406
Credit and Rural Development—Gary P. Green 415
Rural Financial Institutions: Trends and Prospects—Lynn A. Nejezchleb 422
Private and Public Sector Solutions to Financial Stress Problems—John R. Brake and Michael D. Boehlje 431
Tourism Development: A Potential for Economic Growth—Glenn Weaver 440

EDUCATION AND HEALTH

Rural Community Colleges: Venture Team for Success—D. Kent Sharples 445
Rural Economies, Tax Structures, and Meeting the Demand for State-Local Government Services: A Focus on Local Schools—David L. Chicoine and Gordon A. Hoke 450
Health in Rural America: Problems and Recommendations—J. Stephen Wright and Dale W. Lick 461
Issues in Rural Health Care—Michael C. Hosokawa 470
Indian Health Care—Richard Kozoll 477

VI. OPPORTUNITY

Page
Unique Rural Economic Development Efforts in Virginia—Hon. Charles S. Robb 481
The Human Systems Approach to Economic Development—Hon. Bob Bergland 487
Economic Growth in Rural America—Glen C. Pulver 491
Perspective on Rural Development in the 1980's—Willard (Bill) Phillips, Jr 509
Rural Development Worthy of the Name—Jonathan P. Sher 515
Rural Institutions for the Future—Emery N. Castle 523
Economic Development in Rural America: Situations, Prospects, and Policies—Paul R. Eberts 529
Rural Industrialization—Gene F. Summers 547
Recent Changes in Economic Structure of Low-Income Regions—Eldon D. Smith 522
Leadership and Rural America—Maurice E. Voland 561
Extension Today and Tomorrow—James A. Christenson and Paul D. Warner .. 567

INTRODUCTION

By Senator James Abdnor, Vice Chairman, Joint Economic Committee

America is on the threshold of celebrating the 500th anniversary of the discovery of this great land. For nearly all of this half-millenium our Nation was rural and countrified. Urbanization is a relatively new phenomenon in our history—only since 1920 has the urban population exceeded the rural. But this transition to an urban society has produced profound changes in our economic, social, and political institutions. Relative to the whole Nation, rural America has decreased in number, economic production, and political prominence. Worsening trends in the 1980's and the diminishing awareness of Washington decisionmakers toward rural issues has led me to conclude that we are "The Forgotten America."

Scholars and observers suggest that the U.S. has "matured" as a Nation and that the decline of rural prominence is a natural consequence of some grand evolutionary process. Rural America is viewed by many as a dinosaur—a curious remnant of a past age and unsuited to today's sophisticated and complex environment. But such logic is doomed by its myopia.

Rural America is not the out-of-reach, untamed wilderness of the urban mindset. The rural America of today is fully integrated into U.S. society, and accessible physically in mere hours of travel and electronically in mere seconds. The technology that drives modern industry is not stationary. It is adaptable virtually anywhere, as hundreds of rural industries will attest. What hinders rural America is the ignorance, neglect, and inconsideration that permeates the actions of an urban-dominant government.

The challenge to America is to rediscover its rural heritage. Creating new policies that embrace rural values, traditions, needs, and potential can unleash opportunities for all Americans. Indeed, discovering rural American values may awaken a whole new perspective of the role of government in society.

Rural America is undergoing a significant transition as it seeks its identity in a dynamic domestic and global setting. In just the past three decades, the rural economy has been exposed to (1) population and demographic shifts, (2) structural and economic changes in agriculture and natural resources industries, (3) adjustments in the nonagricultural rural economy, and (4) changes in the overall U.S. economy and the association of the rural economy to it. These influences have dramatic long-term ramifications and present short-term obstacles as well. This collection of essays elaborates on these topics in detail.

RURAL AMERICA TODAY

The economic performance of rural America has not kept pace with advances in the urban economy. Consequently, rural standards of living continue to lag behind the urban norm and the incidence of hardship is higher. The following table contrasts the economic condition of metropolitan and nonmetropolitan areas of the United States:

SELECTED ECONOMIC INDICATORS

	Percent of Total	
	Metro	Nonmetro
Population	76	24
Personal Income	80	20
Persons Over Age 65	59	41
Incidence of Poverty	62	38
Incidence of Substandard Housing	33	67
Job Creation Since 1982*	90	10
Unemployment Rate (%)	7.2	9.2
Underemployment** Rate (%)	12.3	17.1

*Joint Economic Committee Estimate.

**Those whose wages or hours are reduced involuntarily.

Sources: Census Bureau, Bureau of Labor Statistics.

This table demonstrates just how far rural America is lagging behind. Relative to their metro counterparts, rural residents have lower incomes ($21,000 vs. $27,000 for households in 1984), have fewer job opportunities, have higher joblessness rates, and are more likely to be in poverty or to live in substandard housing.

These conditions are cause for significant Federal assistance, yet rural areas receive a disproportionately small share of Federal programs. This disservice to rural America may in fact be a leading cause for being at a disadvantage in the first place. Nonmetropolitan areas receive a mere fraction of employment and training assistance; housing assistance; and community, area, and regional development assistance. The last major analysis of metro/nonmetro shares of Federal programs was conducted in 1980. At that time, the nonmetro share of a broad range of infrastructure, community and economic development, and housing programs was just 19.9 percent. Although no official studies of recent budgets have been published, leading authorities on rural programs suggest that the rural portion has decreased.

PRINCIPLES

While policies and programs may be debated extensively, principles cannot. As part of rural revitalization, sound social and economic values must lay the foundation on which successful policies can be launched. Basic principles do not change with changing times, a dynamic society, and an expanding and evermore interdependent global economy. Rather, they implicitly are the overriding guidelines which keep policymakers on track.

A Declaration of Rural Interdependence

This is a call to recognize and stand by rural Americans during a time of crisis. Rural Americans are falling farther behind their fellow citizens in the advances enjoyed by others in our Nation. Rural Americans have not been blessed by an economic recovery.

Rural people, households, farms, other rural businesses, and communities do not seek handouts or leftovers. They seek only their rightful status in national affairs as full participants. Their role in society has national and international consequences.

Unless special problems and crises of rural Americans are resolved, we shall lose the luxury of being able to deal with many problems directly experienced by others. As stated by sociologists Don Dillman and Daryl Hobbs,

> What happens in rural America is of concern to all Americans. In our highly interdependent society, rural problems quickly become urban problems and vice versa. Neither the urban nor rural portions of our society can flourish for long while the other languishes behind. Satisfying the needs of all Americans will require that many rural-based problems be solved during the remainder of this century (*Rural Society in the U.S.*, p. 414).

Commitments to Basic American Values

1. There must be a renewed commitment to rural America as human and natural resource bases for generations now and to come.

2. The positive contributions of rural America, as an integral part of the national economy, must be recognized and appreciated by Federal policymakers and all Americans.

3. Opportunities and equal rights for all rural people are as important as those of their urban counterparts.

4. There must be a renewed commitment to the American heritage of family-owned and operated farms as the cornerstone of our Nation's agricultural structure—the proven and reliable provider of food and fiber at low cost for ourselves and international humanity.

Natural Resources

5. The natural resources of rural America—soil, water, forests, minerals, and fisheries—must be protected and maintained as though our lives depend upon them, because they do.

6. Once taken for other uses, our farmland and natural resources—which provide the rural and national economic base—can rarely be restored and then only at great expense to ourselves or future generations. For these reasons, stewardship and conservation must be practiced.

7. Energy for rural households, agriculture, transportation, business, and industries is basic to the national food system and to the remaining economy and must be assured.

Employment

8. Solid, private sector jobs are needed for members of rural community households.

9. Viable career opportunities must be made available to rural youth so that they might be prepared for meaningful employment.

Business, Industry, and Agriculture

10. The development of locally-based agriculture, business, and industry should be encouraged through public programs and policies.

11. Public policies designed to assist and not restrict rural communities are essential in responding to the dynamics of a changing economy.

12. Rules of efficiency and equity in the marketplace must guide the rural economy. The private sector is more efficient in meeting rural needs, but it is the responsibility of government to provide for those unable to provide for themselves and government must intervene to correct market inequities or failures.

13. Sound Federal fiscal, monetary, and foreign policies are vital for the rural economy.

14. Rural citizens should not be deprived of access to the new technology and its benefits. These opportunities are essential to maintain equal footing with the rest of society.

15. Financial flows and links to major money market centers are needed to assure that credit and financial needs of the rural areas are met.

Rural and Community Services

16. As other Americans, rural people—infants, children, expectant parents, other adults, the elderly, workers, and victims of traffic or other accidents—are entitled to good, basic health care.

17. The opportunity for a quality public education is a right for all Americans—urban and rural—whether it be for the purposes of citizenship, the arts and sciences, or occupational needs.

18. Social services are vital for coping with the special personal and family needs among rural and farm people, particularly those displaced by social or economic change, unemployment, or other misfortunes.

19. Rural Americans, young and old, deserve protection against crime, vandalism, and the reasonable fear of crime.

20. The remoteness of rural and farm areas dictates their needs for basic and well-maintained surface and air transportation facilities and services.

21. Fire protection must be adequate for rural communities and outlying areas.

Information and Scientific Needs

22. Rural people, due to their unique physical isolation, need ready access to communications facilities and services, including telecommunications, mail and parcel delivery, and mass media.

23. Rural people, households, farms, businesses, and communities have needs for social, economic, and technical information. Ade-

quate knowledge of social, employment, and economic conditions and trends is vital to the development and maintenance of rural and farm areas.

24. Conditions and changes in rural and farm populations, employment, and quality of life in rural and farm areas must be better conceptualized and accurately portrayed by national statistics which are more sensitive to sparsely populated areas.

25. Research is needed on the causes and impacts of social and economic conditions in rural America. Established and new systems for research and extension of information to rural and farming areas must be expanded.

DIRECTIONS

Rural society is an American minority whose condition has become increasingly overlooked. Federal policymakers in Congress and the Administration either are ignorant of the major economic and social contribution of rural America to the rest of America and to the world as well, or are insensitive to the needs of its citizenry. If the U.S. intends to remain the world economic and political leader, no longer can we afford to neglect the underutilized and untapped resources of rural America.

The political arena is the battlefield for rural Americans to regain their due recognition, and the Federal government has the duty to protect the rights of all citizens. Just as government action persuaded the correction of social racial injustice in the 1960's, it can serve to improve the social and economic injustices occurring in rural America today. Limited access to public services and to the means of commerce, communication, education, and health care is the root of rural American discrimination today. Without this access, rural Americans are at a disadvantage to (1) participate politically; (2) achieve their potential as an economic force; (3) share their social and economic contributions with the rest of America; and (4) enjoy fully the endowed, inalienable rights of life, liberty, and the pursuit of happiness.

The current political setting shows the diminishing presence of rural society relative to the Nation as a whole. All States have rural residents; only New Jersey does not have any nonmetro residents. All other States have nonmetro and rural areas of varying size, population, and densities. Sixteen states have larger nonmetro populations than metro.

The ethnic, racial, economic resource, geographic, topographic, and climatic diversity make these states a unique cross-section of the Nation. What they lack are major metropolitan areas and their concentration of financial, property, and political assets.

In the foreseeable future, rural America will likely face a reduction of numbers in the House of Representatives. This is not due to declining population; more people live in rural America than ever before. However, the rural population is declining relative to total population. Congressional representation is determined by relative population, which is expected to change with the 1990 census. The Congressional Research Service estimates that 19 seats will be forfeited by 10 states, and another 10 states will receive them.

PROJECTED CHANGES IN CONGRESSIONAL SEATS, 1990

Gaining States	Change	Seats after 1990
Florida	+4	23
Texas	+4	31
California	+3	48
Arizona	+2	7
Arkansas	+1	5
Colorado	+1	7
Georgia	+1	11
Oregon	+1	6
Utah	+1	4
Washington	+1	9

Losing States	Change	Seats after 1990
New York	−5	29
Pennsylvania	−3	20
Illinois	−2	20
Michigan	−2	16
Ohio	−2	16
Connecticut	−1	5
Iowa	−1	5
Kansas	−1	4
Massachusetts	−1	10
New Jersey	−1	13

These power shifts usually are described as Northeastern-to-Sunbelt, but could be viewed just as validly as rural-to-urban. Where New York stands to lose as many as five seats, it is unlikely that the boroughs of New York City will experience dramatic changes in the boundaries of Congressional districts. On the other hand, upstate New York may see districts grow in size by many hundreds of square miles. And on the side of gaining seats, it is most likely that metropolitan areas within Florida, Texas, California, and Arizona will benefit from the added representation.

What can be done to offset this trend of weakening political and economic clout? How can rural America keep pace with the changes taking place internally, domestically and globally? Can rural communities adapt to a new economic environment and yet preserve their heritage and lifestyles?

Answers will not come readily nor will any policy remedies produce immediate results. Rural America is in a demographic and economic transition, the outcome of which is unknown. The stakes are high. A vital component and the very origin of America's strength and prosperity may be lost and the consequential burden that outmigration would place on cities is grave. Yet there is a straightforward approach to solutions: rural residents should be permitted equitable economic and social opportunities—a fair shake.

The principles outlined previously stress the importance and value of fundamentals. Combined with the commitment of the Congress, Administration, and the American people, those guidelines can forge a new direction for rural America and thereby ensure future growth for all America.

Even before policy objectives and options can be discussed, debated, compromised, and implemented, an enormous task must be undertaken. Along with a renewed national commitment must come an awareness and education process. Faulty policies and dismal results indicate that too often policymakers do not even have a basic understanding of what rural America is, let alone how it ticks. These myths and misconstrued notions must be destroyed or else public policy is doomed to failure. To correct this identity problem, the following steps should be taken:

1. *Establish a national rural commission.* To ensure that the Congress and Administration recognize the need for a revitalized rural economy, an appointed advisory task force could assess the agricultural and nonagricultural economies and social structure of rural America, analyze the effects of all Federal policies on rural America, determine the economic interdependence between rural and urban America, and recommend future rural policies.
2. *Improve rural data collection.* Primary responsibility lies with the Departments of Agriculture, Labor, and Commerce. However, all Federal agencies which gather data should be required to maintain appropriate rural/urban and metro/nonmetro data. A national rural data research center could serve as a focus for agencies, universities, and institutions to gather, analyze, and disseminate rural information, and to serve as a forum for policy issues.
3. *Require "rural impact statements" on all Federal actions and proposals to assess how rural citizens are affected before policies are put in place.* In addition, annual reviews of the progress made by all Federal agencies with rural programs could be mandated.
4. *Restructure the Department of Agriculture by creating a "Rural Resources and Development Administration."* Given the urban emphasis of the Department of Health and Human Services, Housing and Urban Development, and Labor in particular, it is apparent that the responsibility to protect rural interests in social and development programs rests with the Agriculture Department. Such an administration would reflect the growing diversity of the rural economy, provide comprehensive economic development and planning, promote social and political concerns, and enhance the visibility of rural America.

Independent of Federal policy action, there is another even more important dimension to rural development—economic development and social planning at the local and state levels of government. The ability of any community to attract new industry and expand existing firms, for example, hinges largely on grassroots initiative. Clearly, communities have the most at stake in successful economic development. Local planners have the best knowledge of local human and physical resources, culture and unique features, and have the best idea of what kind of industry that locality wants to attract.

Numerous Federal agencies and Land Grant universities offer training and information in economic planning to facilitate local efforts. Community colleges and vocational schools also can be instrumental in demonstrating that communities can adapt to changing requirements of the workplace. Not only are they excellent in educating and retraining workers, but also the faculty and staff can serve as part of a locality's economic planning team. Successful programs are underway in "school-based development enterprises," where school training and activities are integrated into skills useful in the local and regional economy. Public and private four-year colleges and universities also can provide abundant and innovative resources to assist communities in economic development.

Most states have economic development agencies to assist communities in their efforts. State-level initiatives have shown tremendous creativity in addressing the needs of small business development, high technology adaptation, financial services, capital formation, and marketing expertise. Clearly, State government can form partnerships among local and county governments, educators and technicians, businesses, and individuals.

Through cooperation and coordination, economic development efforts at all levels—Federal, State, and local—can revitalize rural America. We can ill-afford to ignore rural America any longer. The absence of economic recovery in agriculture and other rural industries suggests that public policy deserves reconsideration. Public policy has failed to recognize, let alone keep pace with, the structural and economic evolution of agriculture and rural America. Failing to address these fundamental rural issues will sustain the unsatisfactory status quo—an underutilized national resource, a forgotten economy, and a lost identity, and unfulfilled personal and public opportunities.

I. PERSPECTIVE

RURAL AMERICA IN TRANSITION

By Don Paarlberg*

Agriculture, and hence rural America, is in the midst of a profound transition. I refer here to trends that have been underway for more than a century, accelerated in recent years. I am not referring to the present financial stress in agriculture, grave as it is, which has simultaneously modified and obscured the trends of which I write.

If someone of Old Testament times had visited the American rural scene of a hundred years ago, he could have recognized most of the things he saw. If he were to make that visit today, he would think he was in another world. Agriculture is being changed from its traditional small-scale mode to a modern industrialized form. This is having a far-reaching effect on the structure of our farms and on all of rural America. Agriculture, formerly distinct from the nonfarm sector in both culture and structure, is losing its uniqueness. It is entering the mainstream of economic, social, and political life. The change is gradual and is by no means complete. We are so close to it that we lack the perspective needed to perceive what is happening.

A like change occurred in the nonfarm sector beginning about 200 years ago, during the Industrial Revolution, introduced by James Watt's steam engine. Cottage industry gave way to the factory system. That change, too, was poorly understood at the time. Individuals found it necessary to make difficult decisions. Traditions were swept aside. Institutions experienced stress. Politicians had to cope with problems for which they knew neither cause nor solution. Unaware of the sweep of events, they addressed problems as if the old order still prevailed. There were efforts to fix blame on individuals and on groups. But the agent of change was that impersonal entity, technology. Change was resisted but it occurred nonetheless. In the effort to cope with the adverse effects of change, the great benefits thereof were overlooked and became evident only in retrospect: greater efficiency, a higher level of living and greater capability, private and public, to meet the needs of the unfortunate.

As with nonfarm production earlier, so with farm production now. The agricultural revolution began with chemistry (Justus Liebig, 1803–1873), then mechanization (Cyrus McCormick, 1809–1884), then pathology (Louis Pasteur, 1822–1895), then genetics

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* Professor Emeritus, Purdue University.

(Gregor Mendel, 1822–1884). Recently the revolution has speeded up. These changes have occurred in just the past 35 years:

The average number of acres per farm doubled.

The use of agricultural chemicals increased by a factor of five.

The farm labor force was diminished by 65 percent.

The farm population as a proportion of the U.S. total was reduced from 15 to less than 3 percent.

The adjustment has been very painful. Millions of young people who had wanted to farm had to turn their backs on their heritage and their hopes. Good farmers in their middle years found themselves at a disadvantage with respect to their larger modernizing neighbors and sold out.

Understandably, the negative aspects of these changes caught the public interest. There were efforts to fix blame on the corporations, on the food processors, on the government, and on outside capital. But, as with the Industrial Revolution, the real cause was technology. If mechanization makes it possible for a farmer and his family to operate 1,000 acres instead of 80, the number of farmers has to diminish. And a good thing, too. Suppose there had been no off-farm movement and farm income had had to be divided among several times the present number of farm people.

In the midst of recrimination about the disappearance of traditional agriculture, advantageous results are overlooked. Average per-capita incomes of farm people, which historically were less than half those of nonfarmers, moved up both absolutely and relatively, so that the gap is nearly closed.

The amenities of rural living improved: schools, roads, electricity, telephones, health service, running water, sanitation, entertainment, retirement benefits, vacations. With mechanization, the drudgery of farm work diminished.

As food production became more efficient, the food supply could be bought with a reduced share of expendable income, 23 percent in 1953, 17 percent in 1984.

With fewer people needed on the land, more people were available to provide housing, travel, education, and health services. The real level of living rose, farm and nonfarm.

The changes in farm production brought about great changes in the rural community. Years ago, "farm" and "rural" were almost synonymous terms. No more. When the farm population declined, a two-way adjustment occurred. Many of the displaced farm people went to the cities. The outmovement from 1930 to 1974 was 33 million people, the largest vocational shift in history. Some new industrial plants sprang up in the rural areas, attracted by an abundant supply of people who were willing and able to work. Presently in the rural areas the nonfarm people outnumber farm people six to one. These nonfarmers are rural residents who live in the country but work in town, hired farm workers, retired persons, subsistence people, and some of the unemployed who live on welfare. They range from the most affluent to the most proverty-stricken of our citizens. On the average, their incomes are comparable with those of their farmer neighbors.

For the greater part, the adjustments to the agricultural revolution were made by individuals acting in what they saw to be their best interests, which was the best possible way. Imagine the difficulty of deciding, administratively, who should farm and who should not, who should continue to live in the countryside and who should move to town, which industries should stay in Detroit and which should move to Tennessee. The amazing thing is that the changes took place as smoothly as they did. And they are by no means concluded. The number of farmers remaining, however, is so reduced that further outmovement, while perhaps large relatively, will be small absolutely.

What is happening is that rural America, formerly in the bayou and the backwater, is entering the mainstream where a different form of navigation is required. The institutional arrangements originally set up to serve traditional agriculture have been stressed and are in the process of change. I list four of these institutions, the key ones: the Department of Agriculture, the Land Grant colleges, the farm organizations, and the committees of Congress.

The Department of Agriculture, begun in 1862 to serve farm people who then constituted the majority of the population, now finds this constituency reduced to a shrinking minority. It has expanded its service to include food programs for the poor, resource management, and a wide range of services to rural nonfarm people. Recently its budget for the nonfarm sector has exceeded the budget for its traditional clientele. Despite misgivings of its long-time constituents, USDA took leadership in accommodating the adjustments that flow from the agricultural revolution. Four key studies were made which laid the foundations for program changes, beginning with *The Development of Agriculture's Human Resources* in 1954.

The Land Grant colleges, established more than a century ago to prepare the young men of our farms for agricultural production, are now educating farm and nonfarm men and women for farm and nonfarm opportunities. At Purdue University in 1978, only 18 percent of our agricultural graduates went into farm production. The Experiment Stations, formerly almost the sole source of new agricultural science and technology, are now sharing that role with private agribusiness firms, with the biology departments of the non-Land Grant colleges, and with the nonagricultural agencies of the Federal Government. The Extension Service, which once was the major conduit of agricultural information to individual suppliers, is now sharing that function with those who supply farmers with their chemicals, their feed, and their fertilizer. A new division of service to farm people being worked out is between public and private agencies. Service to rural nonfarm people is a growing part of extension work. The 4-H clubs have reached out to enroll nonfarm young people, who now outnumber those who live on farms three to one.

With the retreat of general farming and the rise of specialization, the general farm organizations, originally considered the spokesmen for all of agriculture, find their role diminished. The wheat growers, the corn growers, the sugar producers, the dairymen, the cotton growers, the sugar producers, and the peanut people all formed organizations in behalf of their special interests.

The manner of representing agriculture is accommodating itself, though with difficulty, to the new reality.

Our elected representatives who are expert at counting votes, are aware of the transformation of rural America. They have extended public services to rural nonfarm people who formerly lacked them, often over farmer objections. They have provided inducements for industry to locate in rural areas. Rural electrification, water and sewer facilities, rural telephones, training for off-farm jobs—these have come into existence.

Nonagricultural agencies of the Federal Government, Health and Human Services, the Commerce Department, and the Interior Department chief among them, have moved in to serve rural nonfarm people.

So the institutions, with delays and creaks and groans, have been making the adjustments called for by the agricultural revolution.

Should the Department of Agriculture revert to serving only its former constituency, as some people propose? In the view of this writer, the answer is "No." Government, though belatedly, has modified its services to accommodate the change. I see no evidence that service to farm people has suffered thereby.

Here it is well to delineate the stages of change that flow from the advent of new knowledge.

First, individual enterprisers adopt the improved practices.

Secondly, institutions adjust to these changes, albeit slowly, reluctantly, and by small increments.

Thirdly and last, long after the first two changes, the rhetoric is changed. Voiced support for the old, which is popular, is gradually replaced by support for the new. That the lag is long is witnessed by occasional expressions of nostalgia for cottage industry, which, except for a few vestigal forms, expired many years ago.

We should not be too critical of this rhetorical lag. It provides a smokescreen behind which constructive change can occur. So long as tribute is paid to the old, the new can be embraced. The important thing for an observer is to look at what happens rather than listen to what is said. If one should listen instead of look, his mental image of agriculture might be out of date.

How should one view the profound change described above? The traditionalist sees it as an enormous loss. The person who places great store by efficiency and a rising level of living views it as a hugh gain, worth all it cost. This writer, who has in him both a streak of traditionalism and commitment to efficiency, raises one cheer, maybe two, certainly not three.

REFLECTIONS ON ECONOMIC POLICY FOR RURAL AMERICA

By Harold F. Breimyer*

> The human brain, so fragile, so perishable, so full of inexhaustible dreams and hungers, burns by the power of the leaf.
>
> LOREN EISELEY

> Entrepreneurs may make money, but only citizens can make justice.
>
> BENJAMIN BARBER

> The worst thing is to be born sighted, but to lack vision.
>
> HELEN KELLER

From Biblical times to the modern era, the question surrounding the rural portion of a nation has never changed. It asks who will occupy it, and under what sociological, economic, and political terms.

Where a rural area is primarily agricultural, the question converts to who will own, cultivate, receive returns from, and *protect* the land—and under what terms of relationship to the rest of society.

This second question regarding the structural composition of a nation's agriculture and its farming community is obviously a burning one in the United States of the mid-eighties. The urgency of addressing and resolving it doubtless gave rise to these readings on rural America.

Addressing that question begins from two starting points. The first is an understanding that is accepted widely and rarely challenged. The above quotation from the late eminent scientist Loren Eiseley is offered only as a reminder. Human existence, together with that most exalted quality of humankind, the capacity for moral cognition, rely on the process of photosynthesis that takes place in the chlorophyll of the leaf. The latter depends on growing plants, most of which require soil.

The second basic thesis, which ironically is resisted as sharply as the first is accepted, is that the composition and welfare of rural America rests on institutional design; and it, in turn, requires decisionmaking by social action, primarily that of government.

As an example, it is our national tradition to prefer an economic system that is as nearly self-regulating as possible. We want economic forces to interact to guide the economy and keep it on an even keel—in equilibrium. We expect it to yield equitable incomes and high living standards for all participants. As an abstract thesis this objective is not challenged.

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We may wonder whether that halcyon outcome is even technically attainable. But that uncertainty is not what divides people and stirs argument. The crux of the issue is that so attractive a system does not come about, nor sustain itself, of its own accord. A system of that kind can be established and kept only if the body politic consciously sets up the institutions that are appropriate for the purpose.

A system that self-equilibrates does not self-establish nor self-sustain. This is one of the most pervasive, discouraging, and yet challenging of all economic principles.

It is a general rule, and almost a paradox, that the more nearly self-regulating the economic system, the more precisely must its institutions be designed.

The process of design blends factual data with a sense of purpose—with vision.

If we want rural America and its agriculture not only to be productive but also to offer opportunity, to achieve an acceptable degree of security, and to be marked by economic justice, that goal must be not only recognized and verbalized but given concrete reality in appropriate rural institutions.

INSTITUTIONAL DESIGN

What are those institutions?

They are rather well known. The problem lies not in describing them but in establishing and keeping them—with determination, with clout.

1. ACCESS TO LAND

Throughout all history, the dominant issue in agriculture, and the most explosive one too, has been the terms of access to land. Closely tied to it is who is to get the returns from land—not just returns to labor and management but the "unearned" return of rent, which arises in the scarcity of productive land.

So long as our country had lots of land, access to it could be made easy.

When land became scarce, we took a few steps to make access easier than it would otherwise be. Credit institutions were intended to facilitate an operating farmer's buying the land he farmed. Probably the biggest subsidy is one that is not often recognized as such, and is confined to arid regions that depend on irrigation. Subsidization of irrigation water can be a major public assistance in access to land.

Agriculture in the mid-eighties is in financial crisis. Aside from the human trauma, which is intense, the significance is that it sharply restricts access to land. It almost denies access to operating farmers of modest means. Not only are newcomers excluded, but hundreds of thousands of farmers who previously had some equity in their land are losing both the equity and the land.

The magnitude of what is going on and its human cost will surely be reviewed in other essays. Only three observations are offered here:

(a) Recent events are teaching a poignant lesson about how access by operating farmers was made possible during recent generations. From the Depression of the 1930's to about 1980, farmers were enabled to enter agriculture as landowners primarily by virtue of an inflation of values. The popular notion that farmers paid for their land by diverting their net farm income to pay off their mortgage is incorrect. Probably not more than one-fourth of the net worth of farmers was acquired in that way. The steady uptrend (until 1980) in value of both farm products and farm assets funded farmers' entry into landholding.

From the 1930's to approximately 1970 the uptrend in values was rooted in genuine economic growth. During the 1970's, a fraudulent substitute took over, namely, inflation.

It follows that when both growth and inflation stopped, so too did the opportunity for farmers to enter farming as landowners. In fact, those who had not yet solidified their finances were forced out, as noted above.

(b) It follows too that in the absence of economic growth and/or inflation, the door of opportunity for operating farmers to become landholders will be closed tight, except insofar as public assistance is offered.

So it is that institutional design, and not merely the personal characteristics of would-be farmers, will have much to do with the structure of agriculture and the rural community of the future.

(c) In recent years a new institutional element has borne on access to land. It is the tax code, with its panoply of shelters that affix entry not to operating performance but the height of tax bracket of an investor. Without overstatement, in the absence of major reform the tax code could prove to be the most powerful institutional instrument bearing on access to the agricultural resource of productive land. The present code (that of 1985) works harshly against opportunity for the low-bracket operating farmer.

2. ACCESS TO MARKETS

The vital consideration of access to markets divides into two parts, each highly significant. The first is the role of collective action in assuring and stabilizing product markets. The second is the institutional relationship between farms and their suppliers of inputs and receivers of products.

(a) Volatile demand and variable supply have long destabilized the market for the products of agriculture. This fact is widely recognized and equally widely discussed. It has given rise to farm programs that date from 1933.

Because the topic is so familiar only a few comments are offered here. One is that the instability is so extreme that to allow market forces to operate unattenuated would insure one of two outcomes. The first possibility is that during each downswing period of oversupply and collapsing prices, a substantial fraction of farmers would be forced into bankruptcy. Yet the next upswing would bring a bonanza accompanied by speculative frenzy.

The other possible outcome is that landholding will drift into the hands of conglomerate corporations that are large enough and so well financed that they can cope with the gyrations in farm prices and incomes.

The second comment is that if farmers are to take joint action to achieve a degree of stabilization, they cannot always depend on liberally funded voluntary acreage programs to do that job for them. During the worst stringency they will find it necessary to engage in an all-producer mandatory program, distasteful though it be.

(b) Traditional agriculture has featured open market trading relationships between farmers and their suppliers and outlets. Not many years ago there was much interest in the quality of those relationships. Farmers particularly asked whether both supplying and outlet industries were efficient and highly competitive; and also whether market services such as the providing of information were adequate.

Regrettably, that interest has waned. Farmers and their organizations may be overlooking an important aspect of their institutional structure.

An even more important consideration may loom in the future. It is associated with the new thrust of biotechnology. According to some observers—Professor Ronald Knutson of Texas A&M University, for example—the new biotechnology will be so complex that farmers will be forced into a technological integration with their input suppliers. If those suppliers are private businesses they will take over managerial control of farming operations. Another option is for farmers to commission their cooperatives to serve in a new role of storehouse and dispenser of the new technology. In other words, individual farmers would integrate with their own cooperatives.

Yet one more comment about market services is timely. It relates to the deregulation mania of recent years. As a general rule, deregulation hurts smaller and more remote places and businesses. On the whole, it hurts farmers and the rural community. Deregulation of transport services is a case in point. Deregulation of rail freight rates has put hundreds of farming areas in the uncomfortable position of being a captive shipper.

3. ACCESS TO FINANCE CAPITAL, ESPECIALLY CREDIT

Although linked to access to land and industrial/technical inputs, the terms of access to capital take on an institutional significance of their own. It is a matter not just of whether capital is available, but whether it is in the form of equity or loan capital.

In a summary word, equity financing carries managerial control with it, but credit financing ordinarily (or in principle) does not.

Some students of agricultural finance believe it is possible to make outside equity capital available without denying operating farmers all managerial control. Their ideas are captioned as institutional innovation.

Other papers in this report may treat the topic. It is only flagged here.

4. ACCESS TO KNOWLEDGE

Our historical record may be brightest in facilitating access to knowledge about a dynamically changing technology of agriculture. Bastion to the system has been the experiment stations and extension services of the U.S. Department of Agriculture and Land Grant Universities.

The system is in flux. Both funding and philosophy have led to a gradual fading of the grant approach and a shift to doing more public research under contract. Private research and, to some extent, private dissemination are growing disproportionately. Here too the issues are not undisclosed. They have been debated widely. All to be offered here is an admonition that to compromise with the time-honored tradition of making agricultural knowledge a public good will have, eventually, grave consequences to the structural composition of rural America. Privatizing of knowledge carries the very considerable risk of siphoning the benefits that knowledge can bring.

CONCERN FOR ALL OF THIS GENERATION—AND THE NEXT

The review thus far has followed the usual practice of showing concern for operating farmers and the terms of landownership. Moreover, it has been oriented toward the present generation.

In reality the welfare of rural America and its agriculture is more comprehensive. Only a few observations, in the form of axioms, are offered.

1. GOAL CONFLICT BETWEEN COMMODITY STABILIZATION AND MEETING MINIMUM INCOME NEEDS

The assumption over many years, more implicit than explicit, has been that programs to stabilize price and returns from commodities would carry with them at least a minimum protection of income of farm families. However, the distributional pattern for wealth and income in agriculture is so highly skewed that it may be necessary to address income guarantees independently of commodity stabilization.

Closely related is the high incidence of rural poverty, which surely is almost impervious to commodity programs. It is a blot on the rural community and merits attention as such.

2. NUTRITION AND SAFETY IN FOODS

At its peril does the farming community fail to remember that it exists in the service of consumers. Not only is there an obligation to serve consumers well, but consumer satisfaction is essential to strong markets for farm products. Food safety may be the most contentious concern of our day.

3. WELFARE OF HIRED FARM WORKERS

In sizable areas of the United States, "agriculture" includes hired farm workers. If the welfare of all agriculture is to be advanced, the interests of the wage-employed portion thereof cannot be disregarded.

4. THE INTERESTS OF FUTURE GENERATIONS

Finally, no review of policy for rural America is complete without a reminder of the urgent need to protect and preserve our soil and water. If we have any sense of continuity of human existence, we cannot be indifferent to measures to preserve the resource base and, if possible, to improve it.

This review began with the thesis that our economic activity can conform to our social goals only if we as a Nation choose our institutions accordingly. In no aspect of agriculture does this principle hold more absolutely true than in protection of our resource base. The tendency is almost irresistible to devote all our attention to improving our lot in the here-and-now. If we want to provide for our children and theirs, we must first make up our minds to do just that, and then we have to establish the institutions that will accomplish that forward-looking goal.

And because protection of resources not for ourselves but for later generations is the most enlightened of all objectives, it illustrates the epigram of the grand lady, Helen Keller, quoted at the head of this chapter. Policymaking for rural America begins with vision. And the most exalted vision looks beyond our generation and reaches outside narrow class-interest loyalties, as we hope and prepare for a brighter future for all Americans of many generations to come.

SOCIAL ISSUES IMPACTING AGRICULTURE AND RURAL AREAS AS WE APPROACH THE 21ST CENTURY*

By Don A. Dillman**

Agriculture and rural areas of the United States are now in the midst of a very difficult period. These difficulties are the direct result of many forces, ranging from our evolution towards a world economy to the continuing improvement, here and elsewhere, in crop yield potential. In this chapter, I will discuss how our entry into the information age, a major force of change that underlies many of the difficulties now facing agriculture, is contributing to the emergence of a set of social issues quite different from those faced in previous decades.

Within this century, American society has gone through two eras of significant social change. It is now entering a third era which has profound implications for how society is organized and the social arrangements that govern the use of available technology. Agriculture, farm operators, rural people, and our colleges of agriculture will be greatly influenced by our movement into this era. The first era (Figure 1) can be described as the community control era, which persisted as a dominant force until the 1940's [11]. The second era is that of the mass society which has been dominant during the last 40 years, but whose influence is rapidly declining [18]. The third era is the "information age" which is rapidly developing and will dominate the social and technological organization of society, and the world, as we reach the turn of the century [3, 5]. The social issues facing agriculture are less something unique to agriculture than they are a reflection of these major forces at work in the larger society and world.

The present is an especially perplexing time for agriculture and rural communities when the forces of all three eras persist to some degree, as shown in Figure 1. A result is that quite different definitions of what the social issues faced in agriculture are and what should be done about them, persist. I will briefly describe these three eras, using them as a context for discussing eight important social issues now facing U.S. agriculture and rural America.

The Community Control Era

At one time in United States, community was a geographic place where people could and typically did go about the rounds of their daily lives having all or nearly all of their needs met. Most people's lives were pretty much confined to the community in which they lived and community was a powerful controlling force in their daily affairs.

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* A shortened and slightly revised version of a paper presented at "Issues Facing Agriculture and Implications for Land-Grant Colleges of Agriculture," a workshop for Agriculture Deans and Directors of the North Central Region at the Holiday Inn (airport) Chicago, Illinois, October 9-11, 1985. Portions of this paper are based upon another paper by the author, "Social Impacts of Information Technologies on Rural North America," *Rural Sociology*, Volume 50: 1-26, 1985.

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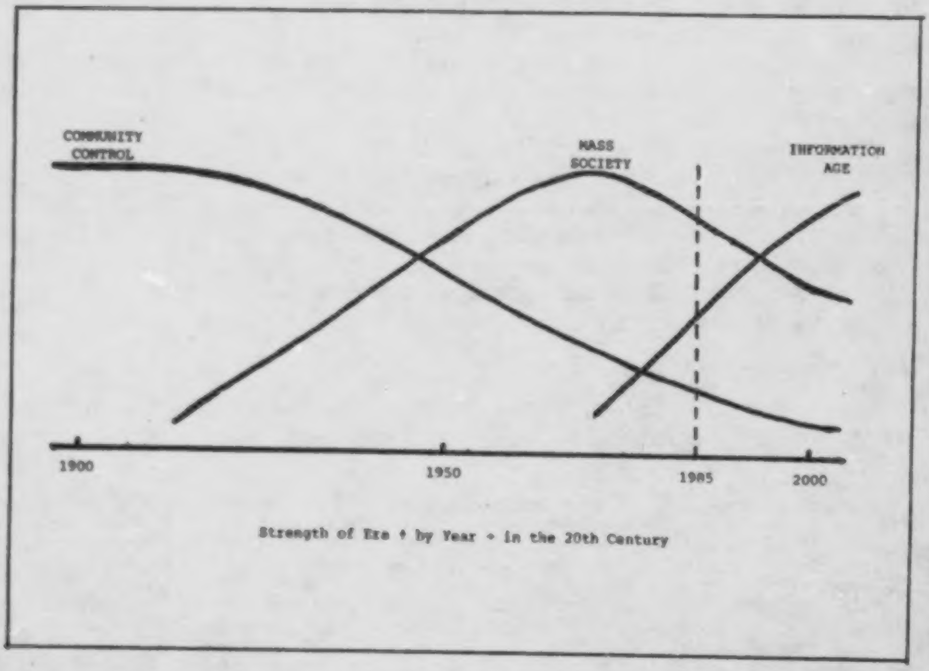
A particular kind of behavior was associated with these rural communities, which had a small population size, a low density of population, much homogeneity—most residents were family size farmers—and a low rate of population turnover [1]. Small rural communities had an overlapping institutional structure. The people seen in church were the same people that were seen when one went shopping, and whose children went to school with your children. The nature of these communities forced people to lead consistent lives.

In the community control era, the family farm whereby a family owned the enterprise, provided most of the labor and made most of the management decisions dominated agriculture. If one were to list the social issues connected to the community control era, one would start with the disadvantaged status of being rural, e.g., having a lower level of living and poorer access to schools and medical care. Bringing about change in people's lives meant overcoming some very powerful community norms as well as the penalty of distance from cities. Discussing the social issues affecting farmers in the 1920's and '30's, inevitably focused in part on farming as a way of life. The difficulties of bringing about the acceptance of better technology deemed essential to producing a better quality of life for rural people was also a concern.

FIGURE 1. *Strength of Three Eras of Social and Economic Change in the United States by Year*



The Mass Society

The mid-twentieth century witnessed an assault on tightly knit neighborhoods and communities on nearly every front. Automobiles, paved roads, and telephones expanded the size of the population aggregate within which people went about their daily interactions. The telephone expanded interactions and speeded them up. Greater societal wealth made possible unprecedented travel opportunities. The rise in national corporations assured a regular turnover of local managers with whom less mobile segments of the population did business. The expansion of diverse educational opportunities and military experiences brought rural people into contact with other sections of the country and other countries of the world to an unprecedented degree. Television and other media of the mass society bombarded the country-side with the same programs and advertisements received in New York and Los Angeles. The mass society also placed emphasis on the building of larger hierarchies. In corporations as well as social service agencies, local representatives reported to regional representatives and so on up the corporate ladder. The arm of the Federal Government was increasingly felt in all aspects of American life from education to transportation.

Communities as arenas for action were opened to outside influences. Whether on educational issues or health concerns, decisions were likely to be made outside the boundaries of communities with little consideration given to the effects of those decisions on other community institutions. There was a concerted effort to bring farmers into the mainstream of society, putting them on a par with urban people by providing the means for making a higher level of living, electricity, and even piped water. The avenue for accomplishing that was to help farmers adopt new technologies that would enable them to run larger farming operations and be more productive.

One of the main social issues of this era, although I am not sure it was perceived as such, was that a tremendous number of farmers had to leave farming. In 1951 some 220,000 farmers left agriculture; by 1961 the number had dropped to 138,000 per year, in comparison to the 30,000 or so a year now leaving agriculture.

The Information Age

We are now experiencing an astonishing revolution in people's abilities to organize, store, retrieve, and transmit information. The essence of the information age is massive increases in all the following: (1) the speed by which communication may occur between one place and another; (2) the amount of information that can be transmitted from one point to another; (3) the fidelity of long distance communications; (4) minaturization of computer and communication technologies; (5) the ability to send as well as receive information from virtually any point on earth; (6) the relative importance of telecommunicated messages compared to transactions requiring physical movement as determinants of people's behavior; (7) the ability to select from data banks the precise information for making decisions; (8) the ability through artificial intelligence to conceptualize problems and possible solutions and ways beyond individual human capibilities, (9) the relative importance of information versus labor and energy in the production of goods and services; (10) the rate of potential change and who interacts with whom for what purpose; (11) the development of information intensive products through biotechnology and other research.

We are shifting from an industrial society to one in which most effort goes into and most value is produced by information processing activities [15]. Information is being substituted to some degree for time, labor and energy in the production of goods and services [9]. Examples of the shift toward substituting information for energy and time exists in nearly all segments of society including secretarial work, operation of air and rural transportation, industrial robots, conservation tillage, poultry production and agricultural pest management, to mention a few.

The information sector of society has by one calculation shifted from one-twentieth of the work force in 1870 to about one-third in 1950 to one-half at present [16]. Some 90 percent of the new jobs created from 1970 to 1980 have been described as information or service activities [13]. Further, the value added to economic output by information work has increased from $300.00 to $5,000.00 (in 1958 purchasing power) per worker between 1900 and 1975 [10]. By one prediction it is expected that by the year 2000 two-thirds of the U.S. work force will be employed in information knowledge or education. The remainder will include 22 percent in manufacturing, commerce, or industry; 10 percent in other services; and only 2 percent in agriculture and other extractive industries.

Accurately perceiving what a full fledged information age will be like is probably beyond our most imaginative capibilities. When Gutenberg invented the moveable type mold it is doubtful he could have envisioned the universality of daily newspapers, stock prices, and weather forecasts or even why they might come into existence. Indeed, one could imagine that Gutenberg's invention had its detractors who saw it as a novel idea, but not something that could completely replace manuscripts by hand. Most innovations whether printing press, auto, or airplane have little or no initial advantage over other technologies at first, and are decidedly noneconomic. The earliest automobiles were slower than horses, far less reliable, completely unuseable on muddy roads, and certainly not to be bought if it meant selling your horse. The real advantage of new technologies come after one technology is linked to another and new capabilities are developed producing unforeseen demands for unforeseen products.

It is commonly predicted that one of the most common tools of the future will be individual computers or microprocessors which come as an integral part of each machine, dedicated to a particular function much as the electrical motor is today. We have barely begun to see the kinds of ways in which information substitutes for energy and labor in the production of goods and services. When one considers the incredibly large number of scientists living in today's world, compared to all previous times, and the tremendous investment in research now occurring in most of the industrialized country, there seems little doubt that we are in the midst of a revolution with dramatic implications for all of us.

The information age is going to come at us with frightening speed, much faster than any of the other eras. Farmers as well as those of us in Land Grant universities, are going to face tremendous pressures to overcome cultural lag more quickly than we have in the past. Let me now turn to seven specific social issues impacting agriculture and rural areas, most of which exhibit a dimension of cultural lag.

SOCIAL ISSUES IMPACTING AGRICULTURE AND RURAL AREAS

I. END OF THE "FAMILY FARM" AS A VALUED ELEMENT IN THE UNITED STATES CULTURE

Throughout this century, the American public has placed a high value on the family farm. Protection of the family farm has been used to justify commodity price support legislation and in particular as a basis for the argument of who gets how many benefits. The family farm has been seen by many as an essential national resource, helping to explain our agricultural success and the failure of the agricultural system of the Soviet Union. It has been credited with instilling a strong work ethic in American society and being a model of cooperation among husband, wife, and children for other segments of society to emulate.

Public support for the family farm as a last bastion of family togetherness in the work place and a major shaper in American values has about run its course. In 1985, David Stockman, director of the Office of Management and Budget, declared:

> For the life of me I cannot figure out why the taxpayers of this country have the responsibility to go in and refinance bad debt that was willingly incurred by consenting adults who went out and bought farm land when the price was going up and thought they would rise, or went out and bought machinery and production assets before they made a business judgment that they could make money.

Mr. Stockman was giving much more than his opinion on farm subsidies and making credit available to farmers. He was also making a contemporary political statement about the family farm. For the first time in the century, a major spokesman for the President bluntly declared to the American public that the family farm is far less important than many other societal values. In the editorial aftermath, *The Wall Street Journal,* summed up this changing view of the family farm:

> The traditional response in the farm belt has been that there is an important public purpose to be served by preserving the 'family farm,' that implies that farm policy is . . . social policy. Yet, commercial family farmers are skilled entrepreneurs operating large and complex businesses. They use computers . . . and play a chancy game with weather and markets. Maud Muller no longer rakes the meadow sweet with hay [17: p 34].

Agriculture is truly becoming industrialized, the last of our major industries to do so. Fewer and fewer farms fit the traditional description of a family farm as a place where members of an immediate family provided most of the labor, controlled most of the decisions, and depended mostly on the farm enterprise for their income. The more that agriculture moves into the information age with its even more specialized equipment, more complex arrangements with industry, greater separation of place of residence from the place where the farm work gets done, and greater separation of husband's and wife's careers, the less important the concept of the family farm, as traditionally defined, becomes.

The family farm is a particularly sensitive issue to agricultural people, and it is important that this point *not* be interpreted as an argument that there will be a sudden wholesale transition away from families owning farm operations towards strictly corporate ownership. The important change I am describing taking place is that first, the nature of these family enterprises is changing in the direction of more control of farming decisions from outside the family, less reliance on all members of the family for farm labor, and less likelihood that the family will own all or most of the production inputs. Second, the American public's support for the family farm is declining, and will continue to decline. Just as families run farm operations they also run restaurants, hardware stores, and machinery repair shops, and, just as the American public does not feel special attention should be accorded to those operations, they are less likely with each passing year to provide special status to family farms.

Many farmers will continue to think of themselves as family farmers just as many people envision themselves living in a community control era. Nonetheless the public as a whole, whose connections to agriculture are becoming increasingly remote, will find the family farm concept less meaningful and less of a rationale to support special treatment for agriculture.

II. CONNECTIONS BETWEEN AGRICULTURE AND THE NATION'S LEADERSHIP

During the community control era some 30 to 35 percent of the Nation's population lived on farms. During this time a significant portion of the Nation's current leadership were growing up on farms or in rural communities.

We live in a time when most people's images of farming and their understanding of it are a lot more likely to stem from a box of Kellogg cornflakes than from an image of corn standing in a field. I used to think it impossible that an adolescent could stand in front of a meat counter and think that hamburger was being manufactured behind that counter. Now I am a little less certain about that belief. It is easy to understand how the leaders of the United States will come to define agriculture as simply one more line in the federal budget, and a line that can easily be decreased with pain only to a small minority of the population. Whereas yesterday's leaders had farm connections, today's leaders are more likely to be raised in suburbs, educated in metropolitan universities, and to develop their careers in cities.

In reaction to these ideas, it is sometimes pointed out that despite there only being 2.7 million people employed in farming, there are 24 million people employed in the food and agriculture sector of the American economy. However, the vast majority of these workers have little or no connection to farming. For example, 10 million are employed in wholesaling, retailing or food service. There is little reason to expect the employees of Safeway, Burger King, and most other firms in these categories, feel differently about agricultural issues than does the general public.

The changing connection of the Nation's leadership and the general public to agriculture hold substantial implications. For example, agriculture may have to defend itself on issues from which it previously was exempted by a sympathetic society. If the environmental movement of the late 1960's was occurring now, there is a good likelihood that agriculture would be made subject to the same stringent pollution control legislation forced upon most industries at that time.

Partly because of the changing view of agriculture, and partly from the movement into the information age, the research agendas of agriculture scientists may become subject to public scrutiny and influence in a way that has not previously been the case. For example, suppose biotechnology research does produce cows as big as elephants, as has sometimes been predicted. One wonders if such cattle would be so fragile that they could not be let out of the protective confines of the building, and if to the casual observers those cows would be seen as suffering. It seems possible that public sentiment could prevent their development, altogether. The agenda of biotechnology researchers may find itself being set by the public in a way that would have not seemed plausible to scientists only a few years ago.

It also seems likely that data about agriculture are going to have to stand more on their own merits. Recently one of the Midwest governors was quoted in the *Wall Street Journal* as describing agriculture as a mature industry (apparently meaning it does not create a lot of new jobs). He observed that 60 percent of his State's research dollar was going into agricultural research. Research budgets will have to be defended in detail in a way that was mostly unnecessary in past decades.

III. CHANGES IN WHO OPERATES FARMS AND THE CONDITIONS UNDER WHICH THEY ARE OPERATED

Last spring I followed development of the farm crisis with considerable interest and at one point posed the question of what would happen if a significant number of family size farmers were forced out of agriculture in the near future. The stimulus for this exercise was the work of the USDA-ERS which suggested that 123,000 of the 678,000 farm units in the $50,000 to $500,000 gross income per year category, which is about as close as one might get to a definition of a family size farm, were insolvent or getting close to bankruptcy. Farms in this category comprise 28 percent of the total number of the U.S. farms that produce 57 percent of the sales.

At first, I dealt with four traditional categories of farms that might replace them: limited resources farmers, part-time farmers, other family farms, and corporate farms. It did not seem likely that any of these types of farms would undergo substantial expansion. This is not the period for limited resource farmers; besides being economically insignificant, the attitudes that undergird the back-to-the-country movement of the 1960's and 1970's are not very prevalent among young people today. Part-time farming as an interim solution seemed reasonable; it allows one to preserve a life style and a place of residence. However, in the long run it does not seem like it will be very important in terms of overall production.

It seemed reasonable that some family farmers who did not buy land would decide that the price is now affordable and therefore invest. However, if they stayed out of the market in the 1970's when people were optimistic about exports, one wonders what the basis would be for their sudden motivation to start buying land. It is also difficult to envision a great expansion in corporate farming. In the past farming has not lent itself to centralized corporate decision making structures and it is difficult to understand why a large corporation would invest heavily in land, thereby immobilizing a large amount of capital. Once land is owned, something needs to be done with it.

It was at this point that I asked myself if perhaps the issue was being considered in an inappropriate way. I was attempting to deal with a new set of problems in a situation not previously faced by agriculture by using pretty traditional concepts. A time of great change such as we are now in, i.e., with rapid development of an interdependent world economy, less governmental involvement to stabilize agriculture, declining of land values, and the rapid emergence of new technologies might be a time for the development of new ways of farming.

For example, in times past, the renter has usually been subordinate to the owner, for example accepting all the farming risk with cash rents. Renters have often had to search exceedingly hard to find suitable land to rent. Might we be seeing the beginning of a period in which the power relationship reverses, and owners have to struggle to find renters. A new breed of "farm operators" might emerge which finds it possible to rent labor and machinery at a fixed price to a landlord who must then take all the risk, thus turning the concept of cash rent upside down.

For some commodities we might see an evolution towards franchise farming. Recently I was told of a company that would contract with a farmer to feed hogs, providing him feeder pigs, the feed, antibiotics, vaccines, and a protocol for their application. In turn, the farmer would furnish the land, buildings, and labor to raise the just-weaned pigs to market weight. When ready for market the corporation would retake possession of the pigs and give the farmer a fixed price per head as payment for raising them. One wonders if the development through biotechnology of new crops requiring pesticide regimes for which the patent rights are owned by corporations might also lead to franchise farming.

IV. POTENTIAL FOR LARGE AND SUDDEN CHANGES IN WHAT COMMODITIES ARE RAISED WHERE

Whatever else can be said about a family farm agriculture with farm land being owned and managed by those who provide the labor, it provided considerable certainty that the land in a particular community was going to be planted and harvested year after year. This situation provided for considerable community stability even if it were at a near-poverty level in some instances.

When a separation occurs among who owns the land, who does the actual farming, and who owns the components of the production process, new possibilities emerge. An example of this combination of attributes might occur if a corporation owns a superior strain of a biologically engineered crop variety which they license to growers, that is a farmer who owns the machinery, who then contracts to farm someone else's land.

Under this situation, conditions no longer exist that virtually mandate the production of crops in a given locale, even when it is expected to be unprofitable. The corporation that owns the plant varieties may conclude it is more profitable to grow them in another area of the country where weather conditions are more favorable or even another country where labor costs are lower. It seems possible that the dairy industry and animal production might move from one area of a country to another where less inclement weather is more favorable to low cost production.

Under conditions of surplus production, which seem likely to prevail in the coming decades, one even wonders if state experiment stations may find themselves pitted against one another to produce small advantages for their area of the country in an effort to prevent movement of production from one place to another. Work on frost free organisms suggests that possibility.

One can envision as a result of changes in (1) the structure of agriculture production; (2) the continuation or even an increase in our ability to produce agriculture surpluses; and (3) the development of new means of producing high yielding crops, significant dislocations in who produces what and where. Such changes may have tremendous social consequences for states and regions that lose out in the competition. Agriculture may be entering a era of competition for production that was once preserved for industrial plants, or as one person has described it, a new era of chasing tractors instead of smoke stacks.

V. CHANGES IN MUTUAL SUPPORT AMONG FARMERS AND FARM GROUPS

The agricultural sector has always found it difficult to face the overproduction issue, partly because of the cultural heritage associated with the community control era. Greg Easterbrook has made this point as follows:

> One of the cultural differences between farmers and city folks is that farmers live in places where everybody is in pretty much the same line of work. Everybody is either a farmer or provides a service that farmers need. Imagine if advertising executives had to live in complexes populated entirely by other advertising executives and could have only advertising executives for friends. Would they be so aggressive about stealing business? To be true capitalists, farmers would have to view their neighbors as their arch enemies so they compensate by viewing farming itself—the act of working the fields, not as selling the finished product—as their purpose and keeping everybody going as a political challenge. This thinking reflects a kindness and

> communal purpose we admire in rural life. It also makes for too many farmers [6: p. 67–68].

In recent years, I have heard a great deal about how difficult it is to get farm groups together to resolve farm issues. People often spoke as if it were just a matter of time until these groups would realize their common predicament. If the structural changes I have described do in fact occur, if the number of farmers continues to dwindle, if the institutions that served them tend to disappear from rural communities, and if the specialization by commodity continues to increase, it will be increasingly difficult to bring agricultural groups together to deal with common concerns.

The grass roots sentiments of looking out for their neighbors will also likely decline. This in itself suggests greater difficulties in representing agriculture to Congress and the American public as a single issue of great concern.

VI. CHANGES IN WHO RESIDES IN RURAL COMMUNITIES AND ON AGRICULTURAL LAND

The devaluation of agricultural land at the same time that it is becoming possible for more and more people to telecommunicate to work raises questions about who will live in rural communities, interspersed among the few remaining farmers. It has been suggested that there will be a great increase in the number of people who because of the computer-communication revolution will use their homes as work places. Marvin Cetron, a futurist, has predicted that a quarter of the labor force will be working out of homes by the year 2000.

Telecommunicating to work has its shortcomings; no one knows how people will respond to physical separation from other employees and the effects it will have on career mobility. There are a number of reasons to think that telecommunicating to work will be accepted only grudgingly by some people. However, it is also clear that a number of powerful forces are coalescing to encourage the trend toward the electronic cottage. Among them are a work force that is growing older thus, having interest in part-time work without a commute, and less concern about advancement in an organizational hierarchy. It is also clear that the advantages to employees of not having to provide a building in which to work are quite large. Predictions for an increase in telecommunicating to work seem well founded.

What is not clear is what implications this will have for rural places. Nearly two decades of rural sociological research has shown that if given there druthers people prefer to live in rural localities [2, 19]. This preference may or may not be a cohort effect of people who spent part of their formative years in rural communities, but early indications are that it is not [7, 19].

It is conceivable that urban people might respond to lower land prices, buying land as future residential locations. This would have several effects on agriculture. The land base for agriculture would diminish and the trend toward farmers becoming interspersed and thus interacting with nonfarmers would be increased. Such a trend would further encourage the trend away from distinctive rural values and a decline in the mutual support among farmers.

VII. DECLINE OF INSTITUTIONS THAT SERVE FARM OPERATORS AND RURAL PEOPLE

There is much reason for concern that rural America might soon become a waste land of decaying institutions. Indeed, it is already happening. As the middle-sized farmers disappear, many of the remaining businesses along main street are going with them. The tremendous land devaluation now in process is making it more difficult for local government to remain solvent and maintain services. However, this weakening of rural institutions is happening at precisely the time that the new information technologies suggest an evolution towards quite different community institutions.

The development of the electronic cottage whereby people commute to work electronically and the linkages of one's productive work to national networks may draw the most important interactions associated with work away from one's community of residence. Direct deposit of money to where it will command the most return and other services may bypass local communities not to mention states and regions of the country. Direct purchase of customized products and services from electronic video catalogs may bypass today's regional shopping plazas as well as branch catalog stores and what little remains in main street. The electronic church which passes the collection plate electronically and immediately gives individual response to prayers of participants may make the exhortation of TV pastors seem quaint and make it even more difficult to maintain the steeples and stained glass windows of the remaining local churches. Application of artificial intelligence to the diagnosis of medical problems may make locally based medical practitioners little more than service representatives of modern medicine. The potential exists for nearly any educational aspiration to be satisfied but only by reaching beyond nearby communities. The process of bypassing local organizations and directly dealing with the centralized providers of services has been called disintermediation [9]. No one knows where the geographically unbounded electronic transactions of the information age will destroy the institutional structure locality but it is an issue that clearly needs to be examined.

One of the most distressing social changes faced by many rural communities near the end of the community control era was the consolidation of schools in order to have large enough numbers of students in each school. As the farm population declines further in the Midwestern States, the specter of another round of school consolidations may become evident. One might ask, why not connect three to five students per school together electronically in order to provide a high school physics or calculus class of appropriate size. One of the most important implications of the information age is that development of new institutional arrangements need not rely on the combining of contiguous geographic areas. Students in high school that are too small to warrant a physics class in any section of the state might be hooked together as easily as those in adjoining school districts. It is just as important for people concerned with the future of agriculture to be concerned with the institutional structures serving rural America as they are with what's happening on America's farms.

VIII. OVERCOMING THE DISADVANTAGE OF RURALITY: WILL A RURAL INFORMATION INFRASTRUCTURE BE DEVELOPED?

Traditionally, rural Americans have been somewhat slower to adopt new technologies than have urban Americans. However, the decline of rural services provides a compelling reason for rural people to consider how the adoption of information age technologies might provide them with services they are now in the process of losing.

Recently I visited with a county extension agent who rather brashly stated that the computer was not going to be relevant to farmers in his county. When I inquired as to the reason, he noted that although a significant number of farmers already had computers they could not use them very well and would not because of the party line telephone service that prevented use of online data services; when someone else picked up a telephone the connections were broken. The use of online data services which will probably be mandatory for many farmers in the 1990's may be thwarted by the absence of an information age infrastructure in rural America, which involves considerably more than the replacement of party line telephones.

To become equipped for the information age, rural telephone systems which were built to give broad inexpensive coverage with the trade-off being capacity, need to be replaced. The use of fiber optics in appropriate combination with satellite transition, larger capacity cables, and digital switching would give a broad band capability from one end of the telephone system to another providing for high quality and capacity transmission from any point to any other point at a fairly low cost.

I have described other aspects of a necessary rural information structure elsewhere [5]. It includes the ability to use network signals than become available requiring the acquisition of equipment for receiving, sending, and using telecommunicated information, perhaps including a video phone, conference capability, and intelligent computer with electronic mail terminal, multichannel, two-way optic fiber cable with feedback controls and video recorder and player. A third part of the information age technology infrastructure is the use of information technologies that become embodied in the tools and materials once used to produce goods and services for the marketplace. A fourth part is the skills to use those technologies and fifth is a rapid physical delivery system for goods and services. It is important that rural America not be left further behind because of not having the infrastructure in place to facilitate the economic and social participation of rural people in the larger society.

CONCLUSION

The current crisis in agriculture and rural America is only the most visible manifestation of a fundamental transition occurring in American society as we shift from a mass society to an information age. This transition poses sociological as well as economic and technological issues that must receive attention. The social issues are numerous. They range from understanding changing public attitudes about agriculture issues, which may have unprecedented influence on the agriculture outcomes of the transition, to identifying means of sharing the availability of essential institutional services to farmers and other rural people.

I am hopeful that the Nation's policymakers will not be passive observers of this change, reacting only after it occurs. Rather, I hope that they might anticipate the coalescence of the forces propelling us toward the information age and facilitate an orderly transition toward desired outcomes.

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AGRICULTURAL AND RURAL POLICY: A HISTORICAL NOTE

By Wayne D. Rasmussen*

Agricultural policy is much more than price support and farm credit—it is the entire range of Federal laws and programs directed specifically at agriculture. Through most of our history it has usually, but not always, included rural development. It has been a thread connecting government and country life since our Nation began. Indeed, agricultural policies of Great Britain—taxing farm exports from America, restricting the westward movement of American farmers, and placing limitations on land titles—were basic causes of the American Revolution.

Two of the first laws passed by the new Nation, the Ordinances of 1785 and 1787, opened Western lands to settlement, with the goal of getting ownership of land into the hands of farmers, and provided for admitting new States into the Union as these lands were settled. Getting people into these new regions gave farmers new opportunities and was basic to rural development. Congress continued to modify the land laws to encourage western settlement until in 1862 the Homestead Act gave men or women who would settle on western lands for 5 years title to 160 acres.

The Homestead Act was part of an agricultural reform package which had grown out of the depression of the late 1850's. Political leaders were concerned with maintaining a healthy farm economy, in part because farm exports had increased until they made up about 80 percent of total exports. This concern, combined with a longtime interest among farm leaders in agricultural improvement led Congress to pass and President Abraham Lincoln to sign the Homestead Act, an act establishing the Department of Agriculture, the Morrill Act granting land to the States for agricultural colleges, and the Transcontinental Railroad Act. Making the railroad act a part of the agricultural reform package was a recognition of the farmers' need for adequate transportation—still a key part of rural development. Agricultural research was greatly strengthened in 1887 with passage of the Hatch Agricultural Experiment Station Act. Together, research and opening new lands to farming increased total production and the productivity of individual farmers.

During the Civil War, the demand for farm products, both domestic and foreign, sent prices up sharply. Labor was short as young men from both the North and South joined the armies. Farmers turned to the comparatively new horse-drawn machinery to increase production despite the labor shortage, a change that has been called the first American agricultural revolution. However, with the end of the war, farm prices fell irregularly but persistently until about 1896. Farmers experienced 30 years of hard times.

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The basic problem was overproduction, although farmers did not recognize it. Production was increasing about twice as fast as population. Increased domestic per-capita food consumption and exports were not enough to take up the slack.

Farmers organized nationwide associations to solve their problems through cooperatives and to press for Government action. They called for the regulations of railroads and warehouses and for the breakup of monopolies. Congress passed the Interstate Commerce Act and the Sherman Anti-Trust Act, but these had little effect on the farm situation. Farmers then called for an increase in the money supply, first for more currency and then for the free coinage of silver. In the 1890's, they organized the Populist Party and came close to electing a president.

After the turn of the century, the rate at which farm production had been increasing began to slow, while both domestic and foreign demand increased. Farmers also benefitted from a mild inflation, triggered by the discovery of gold in Alaska. It was during this relatively prosperous period, in 1908, that President Theodore Roosevelt appointed the Country Life Commission. He asked a group of farm leaders to report upon the condition of country life, what means were available for correcting existing problems, and what should be done on a permanent basis. The President asked the Commission to confine its report to summarizing what was already known about problems and solutions that had been proposed. The result was the first nationwide study of rural living. However, because over one-third of all Americans lived on farms at that time, the Commission made little distinction between farm life and rural life. Many of the Commission's recommendations related to both.

Critics of the Commission have said that while many of its recommendations had to do with improving country life, its members were interested primarily in promoting efficiency in rural America in order to assure a continuing supply of cheap food for our industrial workers. These views are often tinged with a nostalgia for what seemed to be a way of life that was virtually self sufficient, both economically and socially, but that was probably enjoyed by less than a majority of all farm workers and rural residents.

Over a period of 10 years, recommendations of the Commission enacted into law included: a parcel post system to give rural families better access to consumer goods; a postal saving system; the cooperative agricultural extension service (the Smith-Lever Act); and a land bank credit bank credit system (the Federal Farm Loan Act).

The Commission's report stimulated more action on rural or farm-to-market roads. The Department of Agriculture had organized an Office of Road Inquiry in 1893 to carry on work of a demonstrational or educational nature. In 1905, the Office became the Office of Public Roads, which constructed object-lesson roads at local expense and tested various road-building materials. These actions were enthusiastically received in rural communities, where good roads associations were formed, many with the slogan "Get the farmer out of the mud!" Finally, in 1912, an appropriation was made for the construction of post roads under USDA supervision. This and subsequent programs were a major force in ending rural isolation.

World War I led to a new approach in Federal agricultural policies—a guarantee of minimum prices for wheat and hogs. Farm prices rose, the Government called for increased production, and farmers responded. Large quantities of food went to our overseas allies and to relieve hunger in Europe after the War. Then, agricultural prices collapsed in July 1920, largely because of a sudden decline in export demand. Farmers averaged $2.16 per bushel for wheat in 1919, but only $1.03 in 1921. For more than a decade, prices went up and down, with the trend always down. The situation was aggravated by the rigidity of nonagricultural prices and wages, creating a new gulf between farm income and costs. The continuing farm depression was one of the causes of the Great Depression. Many farmers, of course, prospered. They managed their farms well, adopting the new technology that suited their situations. Some began using tractors, for example.

Hybrid seed corn became commercially available in the Midwest in 1926 and those who adopted it usually profited. Many farmers were aided by the Federal Farm Loan Act of 1916. It encouraged the establishment of both privately owned and cooperative farm mortgage banks, with financial guarantees by the Government.

Cooperatives seemed to many to be the answer to marketing problems, particularly after Congress passed the Capper-Volstead Act of 1922, allowing farm cooperatives some exemptions from the antitrust laws. Cooperatives, though, could not control the marketing of substantial enough amounts of the major crops to keep up prices. Production was increasing and foreign markets had virtually disappeared because of rampant nationalism in Europe and the change in status of the United States from a debtor to a creditor Nation as a result of World War I.

Farm organizations, led by the new American Farm Bureau Federation, called for national legislation to maintain farm prices and incomes. Congress twice passed the McNary-Haugen bills, which would guarantee farmers fair prices for their share of the domestic market for basic commodities, while the surpluses would be sold abroad by a Government corporation. These bills were vetoed by President Calvin Coolidge in 1926 and 1927. In 1929, legislation was passed authorizing Government loans to cooperatives to hold products off the market until prices improved and authorizing the establishment of stabilization corporations to purchase wheat and cotton. The Farm Board which administered the program was out of funds by 1933, due to continuing sharp declines in farm prices as a result of the Great Depression and a lack of authority to control production. After his inauguration in 1933, President Franklin D. Roosevelt asked the Congress to pass legislation that would "increase the purchasing power of our farmers and the consumption of articles manufactured in our industrial communities." Congress responded with the Agricultural Adjustment Act of 1933. The act, signed on May 12, 1933, by President Roosevelt, gave the Secretary of Agriculture authority to reduce acreage or production by voluntary agreements, to enter into marketing agreements with processors to control prices paid to producers, and to license processors and others with the aim of eliminating unfair practices. Farmers could receive rental or benefit payments and the Department of

Agriculture could spend money to expand markets or remove surpluses.

The year after the act was passed, Secretary of Agriculture Henry A. Wallace wrote: "The present program for readjusting productive acreage to market requirements is admittedly but a temporary method of dealing with an emergency." Yet, 50 years later, this "temporary method of dealing with an emergency," while modified, is still in effect.

The Agricultural Adjustment Act and its successor, the Agricultural Adjustment Act of 1938, still in effect, were aimed primarily at improving the financial situation of the average farmer.

However, the Resettlement Administration, succeeded by the Farm Security Administration and later by the Farmers Home Administration, sought to help the poorest and most disadvantaged farmers and rural residents. Its homestead program was closely related to recent concepts of rural development; a means of shifting poverty-stricken rural families from submarginal land to part-time farming communities where they could grow their own food and perhaps find jobs in new industries.

Rural electrification, one of the most widely accepted of the New Deal actions, transformed farm and rural life. It is difficult to realize that, only 50 years ago, 90 percent of American farms were without electricity; no electric lights; no running water; refrigeration limited to cool spring water or, in the north, to ice that could be packed in sawdust for summer use; wash boards and ineffective hand-powered washing machines; and hand milking of cows.

The Rural Electrification Administration encouraged the organization of rural electric cooperatives, which would construct power lines and set up a system using loans from REA. In 1933, 10 percent of U.S. farms had electricity; in 1941, 35 percent; and in 1979; 99 percent. Rural communities received electric service at about the same rate.

The Farm Credit Administration was established in 1933; its first job was to refinance farmers in danger of losing their funds. The Soil Conservation Service came two years later; it celebrated its 50th anniversary in 1985. However, the problem of getting food to the needy in the midst of surpluses was one of the most pressing problems facing the nation in the Great Depression. An emergency fund was set up in 1933 to finance the direct distribution of food to needy persons. This program was assigned to the Department of Agriculture, and school lunch, milk, and food stamp programs were developed. Because there are more urban than rural and farm residents, the food programs are regarded as aimed at urban relief. However, they also help many rural and farm people. Food programs, like the other New Deal innovations in agriculture, are still in effect.

World War II triggered a second American revolution, bringing major changes in land use, farm policies, agricultural production, farm management, and farm life. Secretary of Agriculture Claude Wickard called for increased production of many commodities in 1941 and Congress, in the Steagall Amendment, provided price supports for them. World War II sent farm prices to record levels and Congress guaranteed high support prices for 2 years after the cessation of hostilities. After this period, modifications of price support and adjustment legislation were marked by controversy and compromise. The major controversy for many years was between those advocating support levels at a high, fixed levels and those advocating flexible price supports adjusted to supply and demand. The Agricultural Act of 1949, which like the Agricultural Adjustment Act of 1938 is still on the books, supported major commodities at between 75 and 90 percent of parity, which is a relationship between the prices farmers received and those farmers paid similar to the relationship at an earlier period of time, usually 1909 to 1914.

During the fifties, surpluses began to accumulate and the Congress looked for ways to stimulate foreign trade. The Agricultural Trade Development and Assistance Act of 1954, known as Public Law 480, authorized the Government to make agreements for the sale of farm products for foreign currency, to make shipment for emergency relief and other aid, and to barter farm products owned by the Government for needed materials. P.L. 480 has proved so valuable that it has been extended until 1990, but it is far from a complete answer to the surplus problem.

The Soil Bank, established by the Agricultural Act of 1956, was still another large-scale effort to deal with surpluses. The goal was to bring about adjustments between supply and demand for agricultural products by taking farmland out of production. An acreage reserve was aimed at a short-term withdrawal of land planted to major commodities, while conservation reserve looked to the withdrawal from agriculture of any land designated by the farmer for a period of up to 10 years. In 1957, 21 million acres were in the acreage reserve and 29 million acres in the conservation reserve, with the program generally considered a success. Other types of land withdrawal programs were in effect during the sixties.

New emphasis on rural development began in 1954, because rural poverty persisted in the midst of agricultural abundance and national prosperity. Attention was focused at first on finding solutions to the problems of low-income farmers but a study requested by President Eisenhower, *Development of Agriculture's Human Resources*, strongly implied that human and other resources should be moved out of agriculture. Recommended approaches were to increase productivity in agriculture, improve prospects in part-time farming and nonfarm jobs, increase opportunities for training, and encourage employment of underemployed rural residents in decentralized defense industries.

Within the USDA, rural development programs with emphasis upon State and county action were begun in 50 designated pilot counties and areas. The Cooperative Extension Service served as the major leader in program development, with the programs themselves carried out by a number of Federal and local agencies. Representatives of local agencies, USDA and other Federal agencies, and community leaders were organized into Rural Development Committees. By September 1960, under the leadership of those committees, rural development work was planned or underway in 262 counties in 30 States and Puerto Rico. Emphasis was on improving health, and helping youngsters obtain training for farm and nonfarm jobs. A notable movement of people out of farming was well underway, although this may have been more closely related to changes in agricultural technology than to programs to train and place underemployed farm people in nonfarm jobs. Between 1950 and 1960, the farm population dropped from 23 million to 15.6 million.

Congress authorized a rural renewal program in 1962 under which USDA provided technical and financial assistance for locally initiated and sponsored programs aimed at eliminating chronic underemployment and fostering a sound rural economy. Loans were made to local groups to establish recreation areas, to build hospitals, to establish small manufacturing plants, and to carry out similar developmental activities. An unstated major goal behind this and other legislation and programs was to stem the flow of rural poor to the cities. Thus the emphasis was upon providing jobs in local areas and in using existing public facilities and housing.

In August 1972, Congress passed the Rural Development Act, which has been the charter for such work ever since. Over the past quarter of a century, many programs have aided in rural development. They include housing, rural community water and sewage facilities, specialized educational programs rural health services, and others. Indeed rural life has been transformed since World War II. The most notable change has been the drop in farm population, from 24.3 million people or 17 percent of the total in 1945 to 5.8 million or 3 percent of the total in 1984.

Most Americans believe that the overall quality of life in rural communities and on farms is superior to that in cities. Isolation, once the bane of rural life, has ended and cultural facilities are more available than ever before. Agriculture is losing its uniqueness. Despite these changes, overall economic opportunities in rural areas, as measured by comparative income, still lag behind those of urbanites, in part because of the cyclical nature of farming. And there is still a lack of coordination between rural and farm policies.

By 1973, the demand for U.S. farm products was at a high level due to world crop shortages and worldwide inflation. World demand, combined with export subsidies and the devaluation of the dollar, had liquidated the stocks which had been established under previous price support programs. The Agriculture and Consumer Protection Act of 1973 emphasized production to respond to "ever-growing worldwide demand for food and fiber" and permitted substantial changes in the ways programs were implemented.

The 1973 act was designed to provide protection for farm incomes while permitting American products to move into world trade. Farmers would be assured target prices, which would take into consideration the trend of domestic and world prices, supplies, cost of production, and other factors. Loan rates would be set below market prices to encourage products to move into markets rather than into Government storage. Direct payments on crops, called deficiency payments, would be made to farmers when the target price was higher than either the loan rate or the market price. Similar acts were passed in 1977 and 1981.

During the four years that the 1973 act was in force, market prices for most supported commodities remained above target prices, partly because of a strong market. The four years covered by the 1977 act saw demand and prices for farm products generally high, although at the end of the period some falling off in both could be seen. During the time that the 1981 act was in effect, agricultural exports declined and market prices for farm products weakened. Legislated levels of loan rates and target prices predicated on continued inflation and expanded markets proved to be well above actual market prices. The Food Security Act of 1985 cut loan rates but was generally only a modification of the 1981 act.

For the past 50 years, the Government has supported the prices of basic farm products. During this time, the number of farms declined from 6.3 million to 2.4 million. The average farm increased from 157 acres to 437 acres, while the share of the employed working force in farming declined from 26 percent to 3.4 percent. In 1933, farm products made up 35 percent of America's exports, compared with 19 percent today, but the dollar volume has increased from $2 million to $39 billion.

These trends may continue, yet the objectives of America's farm and rural policies are much the same today as they were when we declared our independence. Partly as a result of these policies, American farmers today are free, independent business people; Americans enjoy an adequate supply of high quality food at a lower cost in terms of their income than in most other nations; and agricultural exports contribute substantially to the national economy.

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II. PROFILE

AGRICULTURAL AND RURAL TRANSITION*

By Ronald C. Wimberley**

In historical context, major transformations have taken place this century in agriculture and in rural-urban settlement patterns. These changes may have been unique to the United States as it initiated modern technological developments. Fortunately, national records are kept with which to examine these changes.

AGRICULTURAL TRANSITION

Farm Population

Nineteen-Sixteen. It is recorded in that year that 32,530,000 people resided on U.S. farms. This represented the peak number in farm population. Afterward and as the farm population began to decrease, history quietly changed a basic direction which it must have followed since the beginning of civilization.

First recorded in 1880, the population living on farms increased from roughly 22 million, rose to the peak of 32.5 million in 1916, and declined to less than six million—less than 3 percent—of the national population today.

Of course, it was not particularly unusual for the farm population—that portion of any society's citizens residing in food-fiber producing households in rural areas—to decline. But previously, and barring agricultural imports, significant declines in the farm population are thought to have occurred only when the overall population of a society was declining or, at best, stable in size.

This time, however, the farm population declined while the general population increased.

For such a change to occur in a large population of a well-established, self-sustaining, national society was profound indeed. This concomitant increase in the population size and the numerical demise of its agricultural providers continues to the present. Not only was there an absolute and proportionate decline in the farm population, it has hastened since World War II.

It is too soon to say whether the recent leveling and slight increase in farm population in 1983 and 1984 signals an increase like that observed during the late 1920's and during the Depression of the early 1930's. Only for a few years after World War I and during the Great Depression did the farm population ever near its 1916 level again (*Historical Statistics of the United States*, p. 457; *Statistical Abstract of the United States 1986*, p. 633). This numerical trail of the Nation's resident and farm populations may be traced down columns of Table 1.[1]

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TABLE 1.—U.S. AGRICULTURAL TRANSITION

Census year	U.S. resident population (1,000's) (1)	Farm population (1,000's) (2)	Farm population percent of U.S. total (3)	Number of farms (1,000's) (4)	U.S. persons per farm (5)	Total farm employment (1,000's) (6)	Family workers on farms (1,000's) (7)	Persons supplied per farmworker (8)	Index of farm productivity (1977 = 100) (9)
1850	23,262	———	———	1,449	16	———	———	4	———
1860	31,513	———	———	2,044	15	———	———	5	———
1870	39,905	———	———	2,660	15	———	———	5	35
1880	50,262	21,973	43.7	4,009	13	———	———	6	42
1890	63,056	24,771	39.3	4,565	14	———	———	6	42
1900	76,094	29,875	39.3	5,740	13	———	———	7	47
1910	92,407	32,077	34.7	6,366	15	———	———	7	43
1920	106,461	31,974	30.0	6,454	16	———	———	8	44
1930	123,077	30,529	24.8	6,295	20	12,497	9,307	10	44
1940	132,457	30,547	23.1	6,102	22	10,949	8,300	11	52
1950	151,868	23,048	15.2	5,648	27	9,926	9,597	16	61
1960	179,979	15,635	8.7	3,963	45	7,057	5,172	26	77
1970	203,948	9,712	4.8	2,949	69	4,523	3,348	47	87
1980	227,236	6,051	2.7	2,433	93	3,705	2,402	75	101
1981	229,542	5,790	2.5	2,434	94	3,330	2,236	75	116
1982	231,822	5,620	2.4	2,401	97	4,043	2,494	74	117
1983	234,023	5,787	2.5	2,370	99	3,749	2,271	79	100
1984	236,158	5,754	2.4	2,328	101	3,750	2,315	77	116
1985	238,291	———	———	2,285	104	3,570	2,197	———	———

Sources:

Column 1: For 1850 to 1930, July 1 resident populations excluding Alaska and Hawaii, *Historical Statistics of the United States*, U.S. Department of Commerce, Bureau of the Census, p. 8; for 1940 to 1985, July 1 resident populations including Alaska and Hawaii, *Current Population Reports*, U.S. Department of Commerce, Bureau of the Census, Series P-25, Nos. 802, 971, and 977.

Column 2: For 1880 to 1970, *Historical Statistics of the United States*, U.S. Department of Commerce, Bureau of the Census, p. 457; for 1950 to 1984, *Statistical Abstract of the United States 1986*, U.S. Department of Commerce, Bureau of the Census, p. 633.

Column 3: Calculated from Columns 1 and 2.

Column 4: For 1850 to 1940, *Historical Statistics of the United States*, U.S. Department of Commerce, Bureau of the Census, p. 457; for 1950 to 1985, *Statistical Abstract of the United States 1986*, U.S. Department of Commerce, Bureau of the Census, p. 635.

Column 5: Calculated from Columns 1 and 4.

Columns 6 and 7: For 1930 to 1970, *Historical Statistics of the United States*, U.S. Department of Commerce, Bureau of the Census, p. 467–468; for 1950 to 1985, *Statistical Abstract of the United States 1986*, U.S. Department of Commerce, Bureau of the Census, p. 633.

Column 8: For 1950 to 1970, *Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1980*. Economic Research Service; U.S. Department of Agriculture, p. 63; for 1980 to 1984, *Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1984*, p. 56.

Column 9: For 1870 to 1985, *Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1984*, p. 69 plus communication from Economic Research Service.

Perhaps the short-term leveling of both the farm population and the number of farms during the early 1980's is an effect of contemporary agricultural policies. Whatever the cause, it well could be that the farm population and farm numbers face still further, and acute, depletions. But again, the recent half-decade is simply too brief a period to interpret meaningfully.

Farm Numbers

Following the diminution of the farm population came a similar transition in the number of farms. For once in what were the United States of 1850, the country had slightly more than 23 million residents and slightly less than 1.5 million farms. For every farm, there were 16 people including the farm household.

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[1] For more information of the U.S. farm population, see the later chapter, "America's Farm Population: Historical Changes and Recent Trends," by A. Wayne Lacy and Donald W. Bogie.

While farm numbers surged to over 6.5 million in the 1919 to 1922 era, the high reached 6.812 million in 1935. This came during the prolonged, 1929 to 1938 crest of over 6.5 million farms (*Historical Statistics of the United States,* p. 457). In the half-century from 1935 through 1984, the number of farms decreased by two-thirds. Meanwhile, the U.S. population grew nearly 80 percent and by 100 million residents.

Since 1850, the U.S. population has increased by more than tenfold to nearly 240 million at present. And although the number of farms also increased until the 1920's and '30's, they since have decreased by about two-thirds and to the number found just after the civil war. There are now 104 persons per farm.

Farmland

The expansion and contraction of farm acreage shadowed those of the farm population and farm numbers. In 1953, U.S. farmland—crop and pasture land—spread to a maximum of just over 1.2 billion acres (*Historical Statistics of the United States,* p. 457). This maximum total acreage came about midway between fluctuations of the most cropland in 1940, 531 million acres, and the most pasture land, 490 million acres, in 1964. Today, a total of less than 1.0 billion acres are farmed (*1982 Census of Agriculture,* Vol. 1, Part 51, United States, p. 1). This level is comparable to that of 1930.

Farm Employment

Since figures were first available in 1930, farm employment has dropped by two-thirds from over 12 million to less than four million now. The number of family workers on farms has fallen even more rapidly during the past half-century to less than one-fourth of their previous number.

By 1940, a U.S. farm worker supplied farm products for about 10 people domestically and internationally. By the 1980's, each farm worker typically served nearly 80 people.

Agricultural Productivity

Obviously, social organization and technological innovations were required to reverse the need for greater numbers of farm residents, farms, agricultural workers, and farmland. Mechanization, electricity, genetic improvements, conservation practices, weather forecasting, irrigation, prevention and treatment of disease, pest control, transportation facilities, credit agencies, marketing, research, information, and information extension have combined into a productive national agricultural system. With these social and technical arrangements, farm productivity, as shown by index values in Table 1, has more than doubled within the lifetimes of the last couple of human generations.

RURAL TRANSITION

Officially defined by default, rural is that which is not urban. Urban comprises either incorporated places of at least 2,500 inhabitants or unincorporated places having closely settled areas adjacent to such towns or cities. Generally, urban places are incorporated and have 2,500 or more residents. Urban places with a central city of 50,000 or more, along with the county or counties of which the central city and surrounding settlement is a part, are generally classified as metropolitan.[2] Regardless, "In all definitions, the population not classified as urban constitutes the rural population." (*Statistical Abstract of the United States 1986*, p. 3).

Just as cold may be defined by the absence of heat, rural is defiined for official purposes to be the residual of urban. Perhaps a less passive, if not more abstract, conceptualization would be to view rural as an area which is sparsely populated.

Rural

Coinciding remarkably with the point of history when the farm population was the highest, the U.S. population switched from being primarily rural to primarily urban. In 1910, 54 percent of the resident population lived in rural places; but by 1920, only 48 percent did (Table 2). Therefore, one might interpolate that the rural share of the population dropped below one-half around the year 1917.

TABLE 2.—U.S. RURAL TRANSITION

Census year	U.S. resident population (1,000's) (1)	Rural population (1,000's) (2)	Percent rural (3)	Rural farm population (1,000's) (4)	Rural nonfarm population (1,000's) (5)	Nonmetro population (1,000's) (6)	Percent nonmetro (7)
1790	3,929	3,728	95	———	———	———	———
1800	5,297	4,986	94	———	———	———	———
1810	7,224	6,714	93	———	———	———	———
1820	9,618	8,945	93	———	———	———	———
1830	12,901	11,739	91	———	———	———	———
1840	17,120	15,224	89	———	———	———	———
1850	23,261	19,648	84	———	———	———	———
1860	31,513.	23,227	80	———	———	———	———
1870	39,905	28,656	72	———	———	———	———
1880	50,262	36,026	72	———	———	———	———
1890	63,056	40,841	65	———	———	———	———
1900	76,094	45,835	60	———	———	———	———
1910	92,407	49,973	54	———	———	———	———
1920	106,461	51,553	48	31,359	20,047	———	———
1930	123,077	53,820	44	30,158	23,663	———	———
1940	132,457	57,246	43	30,216	27,029	62,630	47
1950	151,868	54,230	36	23,048	31,181	66,472	44
1960	179,979	54,054	30	13,475	40,567	66,438	37
1970	203,948	53,887	27	8,292	45,587	63,882	31
1980	227,236	59,495	26	6,051	53,444	57,115	25
1984	236,158	61,401	26	5,754	55,646	56,435	24

Sources:

Column 1: For 1790 to 1930, July 1 resident populations, *Historical Statistics of the United States*, U.S. Department of Commerce, Bureau of the Census, p. 8; for 1940–1984, July 1 resident populations, *Current Population Reports*, Series P–25, Nos. 802 and 971, U.S. Department of Commerce; (See also *Statistical Abstract of the United States 1986*, U.S. Department of Commerce, Bureau of the Census, p. 5;

Column 2: For 1790 to 1970, *Historical Statistics of the United States*, pp. 11–12; for 1980, *Statistical Abstract of the United States 1986*, p. 25.

Column 3: For 1790 to 1950 and 1984, calculated from Columns 1 and 2; for 1960 to 1980, *Statistical Abstract of the United States 1986*, p. 15.

Columns 4 and 5: For 1920 to 1970, *Historical Statistics of the United States*, p. 13; for 1980 and 1984, Current Population Reports, Series, p. 27.

Column 6: For 1940 to 1980, *Statistical Abstract of the United States 1986*, p. 19; for 1984, Current Population Reports, Series, p. 25.

Column 7: Calculated from *Statistical Abstract of the United States 1986*, p. 19; or may be calculated from columns 1 and 6.

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[2] For an explanation of present and past definitions of urban and metropolitan areas, see the *Statistical Abstract of the United States 1986*, pp. 2-3 and p. 867 plus citations of other Census and Office of Management and Budget materials.

From 1790—when the first U.S. Census found 95 percent of the 3.9 million residents living in rural areas—until the balance swung toward an urban population took nearly 130 years. During the next 60-plus years until the last census in 1980, the rural population has proportionately fallen another 24 points to 26 percent.

Therefore, percentage-wise, the rural population has been disappearing, and quite persistently so, throughout U.S. history. But percentages—which seem to emphasize the Nation's urbanization at the relative insignificance of the rural population—are incomplete. Why? It is because the absolute numbers of rural people tell another story.

There are more rural Americans now than ever.

Compared with the 1790 benchmark of 3.7 million rural people, there were 61.4 million in 1984. Evidence of continued rural population growth into the mid-1980's means that there are even more currently. In fact, there are almost as many rural inhabitants now as found in the total rural and urban populations of about one-half of the 50 States.

Rural Farm and Nonfarm

Prior to the rural population's all-time high in the 1980 census, the previous apex came in 1940. In addition to preceding World War II and before farming became increasingly mechanized, this census pictured the rural and urban population prior to the post-war, rural-to-urban migration and suburban development that tended to become part of urbanized areas.

Another transition took place in that decade of the 1940's as well; the rural population ceased being primarily a farm population. From 1940 to 1950, the rural farm population fell appreciably from 30 million to 23 million while the rural nonfarm population expanded from 27 to 31 million (Table 2). By 1984, rural nonfarm residents outnumbered the rural farm population by a ratio of nearly 10 to 1. Over 90 percent of the rural population did not live on farms.

By any standards, rural people no longer can be portrayed as farm people.

Nonmetro

Data reported on the nonmetropolitan population—that living outside official metropolitan areas—provides an alternate to the rural-urban categories for analyzing people living in sparsely populated areas. Remember, however, that metro areas do contain patches of rural inhabitants who live outside the urban places within metropolitan area counties. Being a newer classification device, nonmetro and metro trends began in 1940.

From that start, the nonmetro residents amounted to less than half, 47 percent, of the Nation's people. The proportion of nonmetro people decreased to 25 percent of the population in the 1980 census (Table 2).

But again, the percentages can be misleading. Although the nonmetro drop from 47 to 24 percent is a decline of nearly one-half in

44 years, this does not mean that are so few nonmetro residents. To the contrary, and since the overall population is growing, the 1940 count of 62.6 million in nonmetro areas dropped only 5.5 million to the 1984 figure of 56.4 million. Despite the proportionate decline of the nonmetro population, therefore, the net loss of 6.2 million represents less than a 10 percent decrease relative to the 1940 base.

Both numerically and proportionately, of course, the quantities of nonmetropolitan residents have diminished. But, there are still significantly more nonmetro people than all who live in either the northeastern region or in the western census region.

Basic to the technology and social order that enable the U.S. population to grow disporportionately urban and metropolitan are innovations in food and fiber technology and the social organization required to support tens of millions who, themselves, do not produce food. And essential among these technologies are those things dependent upon petroleum and electric energy—including internal combustion engines and automobiles plus electric motors—which enhance nonfarm employment opportunities and economic well-being in general.

CONCLUSIONS

The trends considered here, of course, are merely segments of trends for the entirety of human civilization. The series documented in Tables 1 and 2 are limited by the availability of information for earlier periods. However, it appears that the greatest social and agricultural dynamics have taken place within the twentieth century and especially during the last 50 years.

Within a few years of 1920, the farm population peaked and subsided while the Nation's entire population became more urban than rural. Soon to follow, the number of farms began to decline after its height in 1935. By 1950, the rural nonfarm population surpassed that living on farms. In 1955, farmland acreage crested and began to recede. The percentages of rural and nonmetro populations became smaller and smaller fractions of the aggressive growth of the entire population through 1980. Nevertheless, the size of the nonmetro population remains strong. Moreover, the number of rural residents in the United States is at a record high.[3]

As the rural and urban populations have grown, increasing numbers of people are dependent on fewer farms, farmers, and farm workers. Such is the context for ongoing changes in U.S. agricultural system. The agricultural system or structure may continue to sustain an increased proportion of the Nation's population—and that of other countries—or may bring unprecedented catastrophe if it fails. Probably never have so few fed so many so well.

There is something to this which runs contrary to popular assumptions that farming and agriculture are losing social and economic importance. Although often apparently taken for granted by many contemporary citizens, scholars, and those who set policy, the unique level of dependence of the general population upon those in the farm sector is of utmost consequence for all. This historic change calls for study, understanding, prediction, and public consideration of desired structural futures for agriculture.

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[3] In addition to these transitions is the population turnaround discussed by Beale and Fuguitt in the next chapter.

In any event and within the last two or three generations, major human ecological transitions have taken place in the processes of food supply and population growth. Undoubtedly, technology and social organization have countered the normal demographic demand in order to produce and maintain these historic transitions.

As sociologist William Ogburn explained decades ago, changes in technology tend to precede changes in social and cultural ways of life. Such changes have been witnessed in twentieth century America. Technology is still changing. Therefore, it is time to plan for further social and cultural consequences.

METROPOLITAN AND NONMETROPOLITAN POPULATION GROWTH IN THE UNITED STATES SINCE 1980*

By Calvin L. Beale and Glenn V. Fuguitt**

ABSTRACT

All through the 1970 to 1980 decade, growth of population took place in the rural and small town areas of the United States where very little had occurred in earlier recent decades. In general, the trend can be viewed as one that was primarily socially motivated but facilitated by improved rural economic conditions. By contrast, in the first three years of the 1980's nonmetropolitan growth diminished to an annualized rate only about three-fifths as high as that of the 1970's, whereas metropolitan growth has continued its previous pace. Although the force of the agricultural and industrial recession of 1980 to 1983 in nonmetropolitan areas produced much of this change, nonmetropolitan counties with previous growth linked to retirement (and thus protected from income decline) have similarly slowed their rate of growth. It is conceivable, therefore, that the strength of the noneconomic, quality-of-life objectives that attracted people to rural and small town communities in the 1970's may have waned. Therefore, further economic recovery in these areas may not lead to a full resumption of the pattern of population growth found in the 1970's.

THE NONMETROPOLITAN TURNAROUND

One of the most noted but unforeseen trends in the United States during the 1970's was the revival of population growth in the rural and small town parts of the country. Throughout the twentieth century and most of the nineteenth century as well, urban and/or metropolitan areas had the highest growth rates. Especially since the farm population reached its peak during World War I, it had been the common experience of a majority of rural counties to have net outmovement of people. And, in hundreds of counties in any decade from 1920 to 1970, this outmovement exceeded the excess of births over deaths, therefore resulting in population decline. It is not an exaggeration to suggest that experience of rural demographic decline or comparative stagnation was so prevalent and prolonged that it became axiomatic to expect a con-

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tinuance of this condition. Acceptance of the established trend was so uncritical that there was little adumbration in the demographic literature of the late 1960's of the major change that was starting.

From the very beginning of the 1970's, nonmetropolitan counties began to increase in population collectively at a higher rate than than the metropolitan counties. This trend continued throughout the decade, and for the period 1970 to 1980 as a whole, the nonmetropolitan growth rate of 14.4 percent was well above that of 10.5 percent in metropolitan areas (Table 1). By contrast, in the 1960's, the nonmetropolitan rate of increase had been less than one-sixth as high as that in metropolitan areas, 2.5 percent vs. 17.2 percent. Several factors seem to have combined to bring about this dramatic change:

1. During the 1970's there was a major slackening in the exodus from agriculture. Farm employment had dropped by two million in the 1960's. but stabilized in the 1970's, falling by only 0.1 million.
2. There was major growth of other employment in nonmetropolitan America during the decade. Decentralization of manufacturing continued a trend begun in the 1960's. Jobs in professional services rapidly expanded (especially in health and education), and mining revived (spurred largely by the energy crisis).
3. The growing function of many rural areas as recreation and/or retirement communities was notable. This trend was evident in the 1960's, but accelerated in the 1970's.
4. Both survey and anecdotal evidence make it clear that many thousands of people either remained in or moved to rural and small town areas primarily for noneconomic, quality of life reasons. Even though the average family income in nonmetropolitan areas has been about a fifth less than that in metropolitan areas, there was strong sentiment for the "simpler" life, expressed either in terms of negative perceptions of life in the large cities and their suburbs, or positive conceptions of the merits of living in smaller communities.
5. Greater residential sprawl around metropolitan areas took many people into communities that were rural in character and nonmetropolitan in official status, but that were accessible to metropolitan jobs and services for those tolerant of longer-distance commuting.

TABLE 1.—METROPOLITAN AND NONMETROPOLITAN POPULATION CHANGE IN THE UNITED STATES 1960 TO 1983 [1] (a)

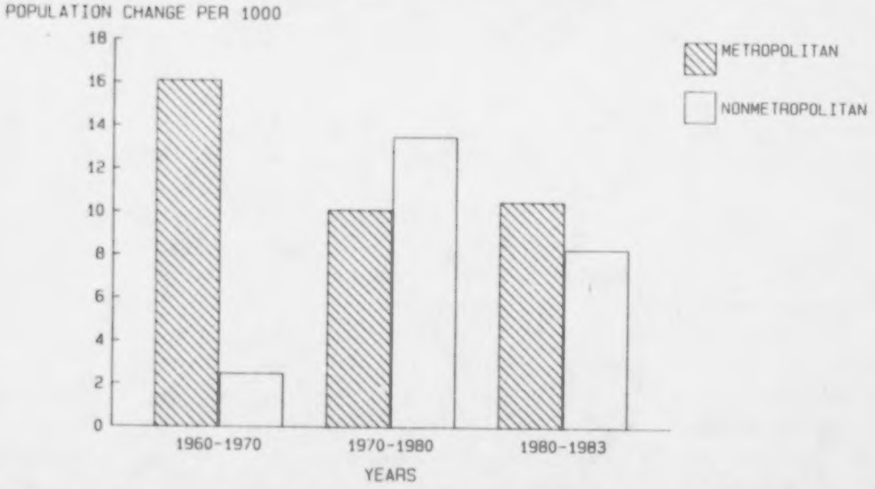
	Number of counties	Population (1,000's)				Percent change		
		1960	1970	1980	1983	1960-70	1970-80	1980-83
Metropolitan	714	132,914	155,717	172,117	178,065	17.2	10.5	3.5
Nonmetropolitan	2,374	46,413	47,585	54,429	55,917	2.5	14.4	2.7
Total	3,088	179,327	203,302	226,546	233,982	13.4	11.4	3.3

[1] Metropolitan Areas as defined in 1983.

THE POST-1980 TREND

In the latter part of the 1970's, however, nonmetropolitan growth began to slow down (Richter 1985) and post–1980 population estimates revealed a re-reversal of the growth differential between metropolitan and nonmetropolitan areas. This is seen by aggregating county growth estimates for 1983, with the resulting 1980 to 1983 population change for metropolitan areas at 3.5 percent, which is above the nonmetropolitan change of 2.7 (Table 1). Because of the different time intervals involved, results for the 1960 to 1983 time span are given in Figure 1 using annualized rates per 1,000.[1] Comparing the three time periods shows that overall between 1970 to 1980 and 1980 to 1983 the metropolitan figure increased slightly and the nonmetropolitan declined. Nevertheless, the most recent nonmetropolitan trend is at an intermediate level between the older traditional pattern and the surprising rapid growth phase of the 1970's.

FIGURE 1. METROPOLITAN AND NONMETROPOLITAN ANNUALIZED POPULATION CHANGE PER 1000, UNITED STATES 1960-1983



It should be stressed that the return of nonmetropolitan United States to a pattern of slower growth is not a reversion to the pell-mell exodus to the cities that typified the 1940's, 1950's, and early 1960's. In the 1950's alone, net outmigration to metropolitan areas totaled 5.5 million people. In the same decade, fully 30 percent of the outmovement consisted of blacks making an historic one-time migration out of hand-labor tenant agriculture to the cities. This movement was so complete that today less than 6 percent of nonmetropolitan blacks work solely or primarily in agriculture, either as farmers or hired workers.

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[1] The annualized rates are based on the formula [Ln(Pn/Po)/n]*1,000, where Pn and Po are the populations at the end and beginning of the periods, respectively, and n is the length of the interval in years (for 1960 to 1970 and 1970–80, N = 10; for 1980–83, N = 3.25). By using 1,000 as the multiplier, rates for interdecade growth approximate but—due to the effect of compounding—are slightly smaller in size than the simple percentage change. By comparison, for 1980 to 1983 results approximate what would have been obtained had we used the 1980 to 1983 annualized rate (without a multiplier) to project a 1990 population using $P9 = P8[1+r]^{10}$, and then calculated a 1980 to 1990 percent change.

Although total demographic growth in the nonmetropolitan United States was considerably reduced in 1980 to 1983, there was no overall net outmigration. National nonmetropolitan growth was about equal to natural increase. An increasingly major feature of American demography is the existence of substantial net immigration from abroad. The recent difference between the rate of metropolitan and nonmetropolitan growth is essentially the contribution of immigration. Immigrants go disproportionately to metropolitan areas, notwithstanding the well-publicized presence of foreign workers—both legal and illegal—among farm workers on large-scale farms in the West.

Another major trend of the 1960's and the 1970's was the overall decline in growth levels in the Northeast and North Central states in contrast to increasing or continued high growth levels in the South and the West. As was true in other recent decades, the current national growth level conceals a wide range of regional diversity, with hundreds of counties continuing to have net immigration—particularly in the West—while others decline in the face of current industrial and agricultural reality.

The metropolitan-nonmetropolitan change pattern described above is rather different when considered separately for the four census regions in Table 2. The turnaround is clearly seen for the Northeast and North Central states with a considerable decline in metro growth and increase in nonmetro growth between the 1960 to 1970 and 1970 to 1980 periods. Although nonmetro growth is lower and metro growth is higher for 1980 to 1983 than for 1970 to 1980, the nonmetropolitan category is still growing twice as rapidly as the metropolitan in the Northeast. Overall growth in both residence categories is essentially zero, however, in the North Central states. On the other hand, although in the South nonmetropolitan population grew considerably faster in the 1970's and the early 1980's than in the 1960's, the metropolitan population grew even more rapidly for each period. (Note that a constant 1983 definition of metropolitan is used here, but the results are similar using other definitions or combinations of definitions.) Similarly, in the West the nonmetropolitan population grew more than twice as rapidly in the 1970's and 1980's as in the 1960's, and continued to be higher than metropolitan growth in the early 1980's. The most rapidly growing segment in the whole table for 1980 to 1983 is the nonmetropolitan West.

TABLE 2.—METROPOLITAN AND NONMETROPOLITAN ANNUALIZED POPULATION CHANGE PER 1,000, REGIONS OF THE UNITED STATES 1960 TO 1983

	Northeast	North Central	South	West	United States
1960–70:					
Metropolitan	9.9	12.4	20.0	25.1	16.1
Nonmetropolitan	5.2	1.7	1.3	7.0	2.5
Total	9.4	9.2	13.5	21.9	12.7

TABLE 2.—METROPOLITAN AND NONMETROPOLITAN ANNUALIZED POPULATION CHANGE PER 1,000, REGIONS OF THE UNITED STATES 1960 TO 1983—Continued

	Northeast	North Central	South	West	United States
1970-80:					
Metropolitan	-0.9	2.7	19.8	20.5	10.1
Nonmetropolitan	9.4	7.2	15.4	26.8	13.5
Total	0.2	4.0	18.4	21.6	10.9
1980-83:					
Metropolitan	2.1	0.5	19.1	19.1	10.5
Nonmetropolitan	4.4	0.4	11.1	20.2	8.3
Total	2.4	0.5	16.6	19.3	9.9

So we see that with a disaggregation by Census region, no region experienced a complete reversal of the turnaround! Rather, nonmetro growth continued to be faster than metro in the Northeast and West, and metro growth continued to be faster than nonmetro in the South. In the North Central States, however, the turnaround disappeared as the post-1980 metro and nonmetro growth rates were essentially equal and less than 1.0 per 1,000.

This rather peculiar result underscores the need to be very cautious about generalizations concerning overall metropolitan-nonmetropolitan growth comparisons. After all, both metropolitan and nonmetropolitan areas are quite heterogeneous, and the fact that one such category is higher than the other is perhaps not as significant as the changes in growth patterns that are taking place within the metropolitan and nonmetropolitan sectors. Consequently, the remainder of this chapter is concerned with possible explanations for the recent decline in nonmetropolitan growth and gain in metropolitan growth, differentiating counties by location and other characteristics.

COUNTY GROWTH PATTERNS

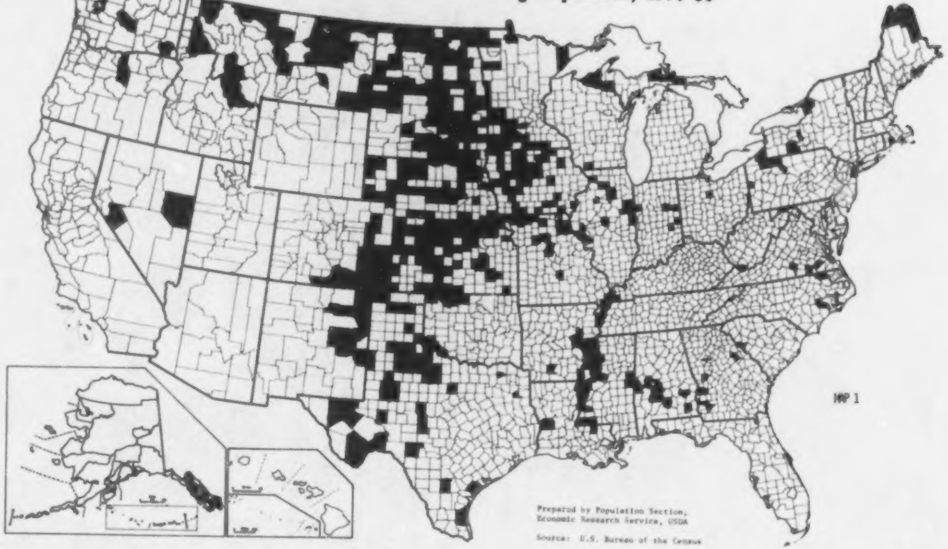
Although a definitive explanation for the decline in nonmetropolitan growth is not yet available, a number of recent events no doubt contributed to this change in the trend. As the decade of the 1970's ended, the country went into the worst economic slump since that of the 1930's. For reasons that are partly but not fully clear, the nonmetropolitan economy was more seriously affected in the early 1980's than the metropolitan economy. Employment in timber industries dropped as housing construction declined. Many rural manufacturing plants were linked with the dwindling automotive and steel industries. And the recently revived mining industry underwent severe depression in mining of metal ores and lesser contraction in coal mining. Further, in the textile, clothing, and leather industries that have have a large nonmetropolitan base there has been increasing competition and job loss from lower priced imports.

The result was a greater rise in unemployment in rural and small town areas than in cities and suburbs. The nonmetropolitan areas were also more heavily hurt by shortened work weeks (involuntary part-time work), and showed a higher percentage of workers who dropped out of the official labor force, because of discouragement and belief that there was no point in looking for jobs. In addition, the farm economy suffered badly in the early 1980's. Overproduction and weak markets in 1980 to 1984 drove the annual net income of farm operators from farm sources down to less than half the average level of the 1970's, adjusting for changes in the value of the dollar (Economic Research Service, 1984). The measure of farm income used is returns to operators plus net rental of land to others. This made it impossible for some commercial farmers to continue in business, and seriously depressed general business conditions in agriculturally-dependent areas.

Given the particularly depressed condition of both the farm and nonfarm rural and small town economy, it is not surprising to find that since 1980 relatively high proportions of blacks continuing to move out of areas to which they once had a plantation agriculture attachment in the years before farm mechanization.

From 1980 to 1983, there were many more declining counties in the central and Southern Corn Belt than there had been in the 1970's (compare Map 2 with Map 1). In our judgment, this change reflects the agricultural crisis and the low purchasing power of farmers in those years, plus stagnation in the older metal goods and automotive industrial economy that coexists with farming in many parts of this area. Numerous other new or renewed areas of population decline include the industrially-based Ohio Valley, some of the timber industry areas of the Pacific Northwest, and certain mining counties of the West.

Nonmetro Counties With Declining Population, 1970-80

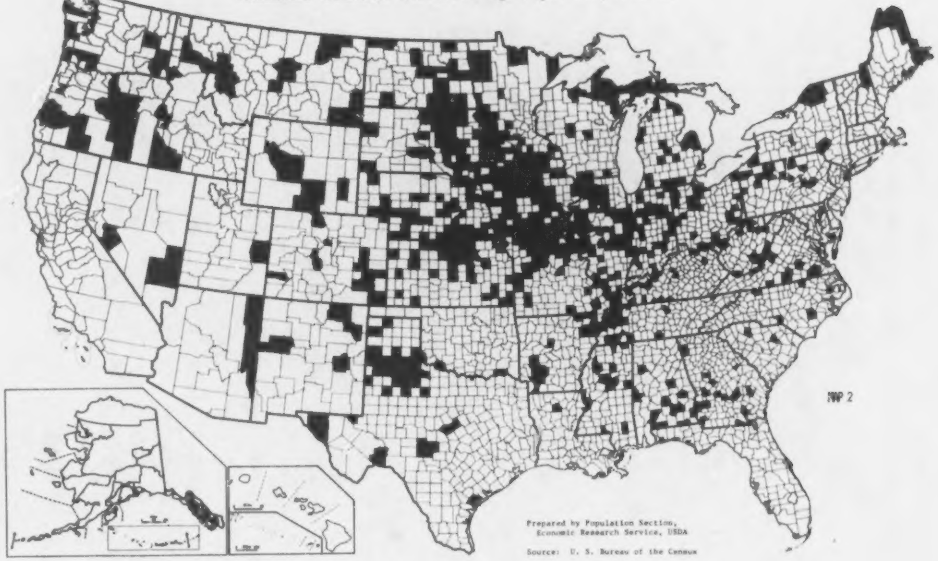


MAP 1

Prepared by Population Section,
Economic Research Service, USDA

Source: U.S. Bureau of the Census

Nonmetro Counties With Declining Population, 1980-83



MAP 2

Prepared by Population Section,
Economic Research Service, USDA

Source: U. S. Bureau of the Census

On the other hand, a good many of the small agricultural counties of the western part of the Great Plains that lost people in the 1970's are estimated to have had some increase in the early 1980's. The source of this growth is not clear. Some of the affected counties can be shown to have had oil or gas development that would offset agricultural loss, but in most cases this is not so. Many of these counties have populations of only 1,000 to 6,000 people and their trend cannot be estimated with as much reliability as that in larger areas. However, their number (more than 100 counties) is too large to make estimating difficulties a tenable explanation for the general phenomenon. What is evident is that with few exceptions the newly growing counties are west of the Corn Belt in a region dominated by wheat and cattle agriculture that experienced less farm income loss than did the Corn Belt counties that have had either continued or renewed population decline.

The newly losing nonmetropolitan counties of the Corn Belt and elsewhere are more than twice as large in average population as the newly gaining counties found mostly in the Great Plains (bottom line of Table 3). As a result, the percentage of the nonmetropolitan population that lives in areas with economic opportunities so inadequate as to induce net population loss has more than doubled since the 1970's. In 1970, 12.5 percent of the nonmetropolitan population was in counties that declined in the following decade. In 1980, 28 percent of nonmetropolitan people lived in counties that have decreased in size since then. The average annual rate of loss in declining rural and small town areas, however, is no greater than it was in the 1970's, but the size of the populations involved in such loss is much larger. (The above results are seen in Table 3 by comparing the corresponding numbers in the first and second panels for column 3.)

TABLE 3.—COUNTIES GROUPED BY GROWTH OR DECLINE IN 1970 TO 1980, 1980 TO 1983, AND METROPOLITAN OR NONMETROPOLITAN STATES IN 1983

	Losing Population			Gaining Population		
	Total	Metro	Nonmetro	Total	Metro	Nonmetro
1980–83:						
Number of counties	855	132	723	2,233	582	1,651
Annual population change 1980–83	−4.4	−4.2	−4.9	14.5	14.9	13.3
Percent of 1980 population in residence group	24.8	23.8	28.0	75.2	76.2	72.0
Average county size 1980 (1,000's)	65.7	310.7	21.1	76.3	225.3	23.7
1970–80:						
Number counties	545	84	461	2,543	630	1913
Annual population change 1970–80	−7.3	−7.5	−5.0	17.4	18.1	15.8
Percent of 1970 population in residence group	29.3	34.3	12.5	70.7	65.6	87.5
Average county size 1970 (1,000's)	109.1	637.2	12.9	56.6	162.2	21.8
New loser or gainer in 1980–83:						
Number counties	[1] 537	[1] 82	[1] 455	[2] 227	[2] 34	[2] 193
Annual population change 1980–83	[1] −4.2	[1] −4.0	[1] −4.4	[2] 3.3	[2] 2.8	[2] 7.9
Percent of 1980 population in residence group	[1] 10.7	[1] 7.3	[1] 21.5	[2] 10.3	[2] 12.3	[2] 3.9
Average county size 1980 (1,000's)	[1] 45.1	[1] 152.5	[1] 25.8	[2] 102.6	[2] 621.8	[2] 11.1

[1] Lost 1980–83 but gained 1970–80.
[2] Gained 1980–83 but lost 1970–80.

On the metropolitan side, the newly losing counties are only one-fourth the size of the newly gaining counties on an average, due primarily to the shift of 13 major metro counties from decline to growth. Of these, five have more than 750,000 population: Cook, Illinois; Marion, Indiana; Queens, New York; Hennepin, Minnesota; and Hartford, Connecticut. Together the newly growing metropolitan counties were only gaining at an annualized rate of 2.8 per 1,000, but they were more than 12 percent of the residence group, while the newly declining counties were only 7 percent of the residence group (compare columns two and five of the third panel). The metropolitan population residing in declining counties thus dropped from 34 to 24 percent in comparing the 1970's with the early 1980's according to the second column of Table 2.

AGRICULTURAL AND RETIREMENT COUNTIES

If nonmetropolitan counties are ranked by the percentage of employed people engaged solely or primarily in agriculture in 1980, those counties with 20 percent or more so employed (and thus dominated by agriculture) had an aggregate annualized population growth rate of 0.8 per 1,000 for 1980 to 1983, with slightly more than half of the counties declining. Those with less concentration in agriculture had an overall annualized growth rate of 9.1 per 1,000.

In the 1970's, counties that could be identified as retirement areas were far and away the most rapidly growing class of nonmetropolitan areas. About 500 counties had net growth from immigration of the population 60 and over in 1980 of at least 15 percent during the 1970 to 1980 decade. This was a fifth of all nonmetropolitan counties. Retirement migration is no longer a matter of moving to the favorable climates of Florida, Arizona, or southern California. Although the "Sun Belt" is still favored, 46 of the 50 States had nonmetropolitan retirement counties, if the above criterion is used. Many of these counties have natural lakes, dam reservoirs, or are coastal. Many are in scenic mountain areas—the Blue Ridge Mountains, the Ozark hills, or the Sierra Nevada foothills. Others are in the desert Southwest.

Over the last two decades, the income levels of older people have been steadily improved and protected against inflation by better pension systems and Federally supported medical care. Most older people do not migrate. Typically only 2 percent of persons aged 55 and over move across county lines in any year—the lowest rate for any age group. But, the direction of the movement that does take place is sufficiently toward smaller-scale communities that it has become a major factor in nonmetropolitan growth. We estimate (through life table survival rates) that the retirement counties noted above had about 750,000 net improvement of persons during the 1970's who were 60 years old or more in 1980.

These counties had an annualized growth rate of 28.3 per 1,000 in that decade, a rate almost three times that of other nonmetropolitan counties (Table 4). Their growth in most cases was not limited to older people. Often the retirement counties are also general resort and recreation areas that attract people of other ages. Since 1980, nearly 95 percent of the retirement counties have continued to have population growth. Some have had industrial slumps that have more than offset any retirement-related increase, but the group as a whole grew by 18.3 per 1,000 on an annualized basis from 1980 to 1983.

TABLE 4.—ANNUALIZED POPULATION CHANGE PER 1,000 FOR RETIREMENT AND OTHER NONMETROPOLITAN COUNTIES

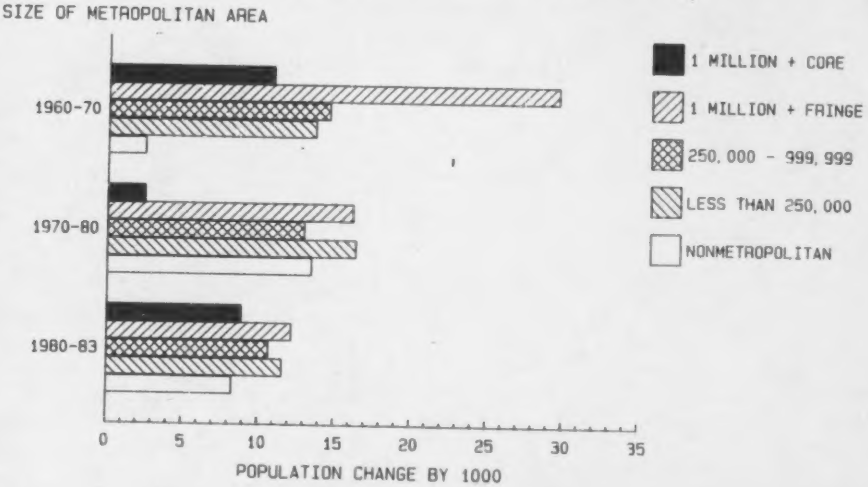
Type of county	Number of counties	Population (1,000's)			Annualized change	
		1970	1980	1983	1970-80	1980-83
Retirement	481	8,767	11,634	12,346	28.3	18.3
Other	1,893	38,819	42,794	43,570	9.7	5.5
All nonmetropolitan	2,374	47,586	54,428	55,916	13.5	8.3

There would seem to be two equally important points to make: first, the growth is more than treble that in nonretirement settings, and the differential between retirement and nonretirement counties has increased slightly. But, secondly, the rate on an annualized basis is well below that observed in the 1970's. The larger question is whether the impetus of noneconomic motivations for settlement in nonmetropolitan areas has subsided, for this in our view was the most important single factor leading to the large scale and pervasive character of the 1970's turnaround phenomenon. Retirement areas presumably should have been least effected by the severe business recession of 1980 to 1983, because of their heavy dependence on people whose pension incomes were immune to the business cycle. Since these areas showed almost the same degree of downturn in population growth as did other nonmetropolitan counties during the recession, then it may be true that the strength of the attitudes and values that impelled many people to seek rural and small town living for quality-of-life reasons has waned, at least for the moment.

METROPOLITAN GROWTH DIFFERENTIALS

The persistence of metropolitan population growth during the early 1980's at a pace equal to that of the 1970's is largely attributable to modest increased growth or decreased decline in the core counties of major metropolitan areas. Figure 2 shows metropolitan counties classed by size of SMSA in 1983, with the largest ones, having more than one million inhabitants, further subdivided by whether they include all or part of the central city or cities ("core") or not ("fringe"). The 1960's was a period of extremely rapid growth in the fringe counties of these large metropolitan areas. In contrast, for the 1970's these counties grew at about the same rate as the smaller-sized metropolitan area groups, and the major core counties dropped to almost no growth. This pattern was consistent with the nonmetropolitan turnaround in showing less concentration into major metropolitan areas and, in fact, a small increase in growth for the counties of metropolitan areas having less than 250,000 people. The 1980 to 1983 period saw an increase in growth for the core counties, but a further decline in rates of growth for all other metropolitan categories, though this decline was less than for nonmetropolitan areas overall.

FIGURE 2. ANNUALIZED POPULATION CHANGE PER 1000 BY SIZE OF SMSA IN 1983, 1960-1983



The regional breakdown given previously (Table 2) indicated that the increase in the total metropolitan growth rate across the last two time periods was actually found only in the Northeast. A regional disaggregation of metropolitan counties indicates, however, that the increase in major core counties is found in each region (see Table 5), although for the Northeast and North Central states this is represented as a diminution of decline. Again, the considerable difference in growth between the Northeast and North Central on the one hand, and the South and West on the other hand, is perhaps the most outstanding feature of this table across all metropolitan and nonmetropolitan categories, and for all three time periods. The increase in the overall metropolitan rate in the Northeast is attributable to a shift from −9 to −1 percent for core counties and from 4.5 to 5 percent for fringe counties, which outweighed the decline in growth for the smaller metro areas. All other regions experienced growth in core but decline in fringe and both smaller metro categories, and so the fact that their overall metropolitan rates did not increase must be due to the increase in core growth being outweighed by reduced growth in other SMSA counties' losses. If the metropolitan Northeast as a whole had experienced the slower growth rate of the 1970 to 1980 period, total U.S. metropolitan growth would have been about 9.5 percent rather than 10.5 percent over 1980 to 1983.

TABLE 5.—ANNUALIZED POPULATION CHANGE PER 1,000, BY SIZE OF SMSA AND REGION, UNITED STATES 1960 TO 1983

Size of SMSA	Northeast	North Central	South	West	Total
1960–70:					
1+ mill. core	2.4	5.5	21.5	20.0	10.9

TABLE 5.—ANNUALIZED POPULATION CHANGE PER 1,000, BY SIZE OF SMSA AND REGION, UNITED STATES 1960 TO 1983—Continued

Size of SMSA	Northeast	North Central	South	West	Total
1 + mill. fringe	21.2	26.8	37.8	47.7	27.9
250,000-999,999	11.0	12.5	15.3	24.3	14.6
LT 250,000	8.1	11.9	14.2	20.3	13.7
Nonmetro	5.2	1.7	1.3	7.0	2.5
1970-80:					
1 + mill. core	−9.4	−7.3	16.8	13.7	2.5
1 + mill. fringe	4.5	15.1	27.1	29.3	16.2
250,000-999,999	4.5	3.8	18.9	25.9	13.0
LT 250,000	5.2	6.9	19.6	32.8	16.4
Nonmetro	9.4	7.2	15.4	26.8	13.5
1980-83:					
1 + mill. core	−1.1	−2.1	21.5	17.5	8.9
1 + mill. fringe	5.0	5.0	24.1	21.3	12.2
250,000-999,999	3.5	−0.4	16.2	21.4	10.7
LT 250,000	1.5	0.5	17.6	19.5	11.6
Nonmetro	4.4	0.4	11.1	20.2	8.3

The importance of the major core counties to the slight increase in metro growth is seen by the fact that if one uses the slower 1970 to 1980 growth rate for all core counties, the total metro growth would have been only 8.1, or about at the level of nonmetropolitan growth. The decline in growth in the major metropolitan centers during the 1970's has been viewed as partial evidence of a major urban crisis—perhaps most dramatically exemplified by the well-publicized near-bankruptcy of the New York City government that required Federal intervention in the middle of the decade. But this crisis seems to have moderated greatly. Several major cities have extensive highly regarded renovation efforts. These county estimates indicate a nationwide resurgence in and immediately around the metropolises of the Nation, although the level of growth is probably still not sufficient to offset natural increase and signal a net migration gain.

One subtle change particularly important for metropolitan areas, that has occurred in the United States in recent years, is an increasing concentration of population growth in just several States. In the 1970's, the three states of California, Florida, and Texas had 42 percent of the country's total population growth. Two of these states are very large physically; all have large areas of mid-to-warm winter climates; and all attract retirees and large numbers of newer immigrants (many illegal). Texas and California have large industrial bases driven by defense, electronic, and oil and gas industries, and California has its ineffable lifestyle qualities. In the 1980's, the three leaders acquired more than half (53 percent) of all population increase from 1980 to 1983, although they had only 21 percent of the U.S. population at the beginning of the decade.

This concentration trend is especially evident in metropolitan population growth, and only modestly so in nonmetropolitan increase. The three States obtained 59 percent of all metropolitan growth from 1980 to 1983. They have such major growth nodes as the greater Los Angeles area, San Diego, the San Francisco Bay area, Houston, Dallas-Ft. Worth, Miami, and the Tampa Bay area.

However, they only captured 29 percent of nonmetropolitan growth, even though they did have the largest nonmetropolitan increase of any three States. Even this is a higher degree of nonmetropolitan concentration than that in the 1970's when only 16 percent of such growth was found in the top three States, but it is clear that rural and small town gains are much more diffuse than are metropolitan gains.

GROSS MIGRATION FLOWS

To complete this analysis, we review findings from another approach, based on a different data source. In March of each year, the Bureau of the Census asks direct questions on migration of a large national sample of the population. Among other dimensions, beginning in 1973 these data allow the tabulation of movers between metropolitan and nonmetropolitan areas. (Time intervals for migration of one through five years were used in the different annual surveys in the 1970's; a one-year interval was used for the 1981 through 1984 surveys.) One of the findings in the early 1970's, which helped to announce the turnaround, was that more domestic migrants were then moving into nonmetropolitan areas than leaving them (Bureau of the Census, 1974).

Table 6 shows, however, that although this pattern held up across 10 surveys using different time intervals between 1970 and 1982, it slowed down according to the comparable one-year interval surveys (compare 1975 to 1976 with the surveys for the 1980 to 1981 and 1981 to 1982 periods), and the net direction of the flow was essentially balanced for 1982 to 1983. Then a decided movement back into metropolitan areas of more than 300,000 occurred in 1983 to 1984.

TABLE 6.—METROPOLITAN-NONMETROPOLITAN MIGRATION STREAMS, UNITED STATES, 1970 TO 1984

Period	Interval years	All ages [1]			Aged 20 to 29		
		Metro to nonmetro (1,000's)	Nonmetro to metro (1,000's)	Net to nonmetro (1,000's)	Metro to nonmetro (1,000's)	Nonmetro to metro (1,000's)	Net to nonmetro (1,000's)
1970-73	3	4,680	3,736	944	1,332	1,415	−83
1970-74	4	5,965	4,121	1,844	1,549	1,614	−65
1970-75	5	6,721	5,127	1,594	1,723	2,058	−335
1975-76	1	2,477	2,081	396	846	811	35
1975-77	2	3,805	3,202	603	1,285	1,241	44
1975-78	3	5,321	4,220	1,101	1,615	1,581	34
1975-79	4	6,691	5,171	1,520	1,882	2,061	−179
1975-80	5	7,337	5,993	1,344	1,781	2,423	−642
1980-81	1	2,350	2,156	194	791	843	−52
1981-82	1	2,366	2,217	149	850	893	−43
1982-83	1	2,066	2,088	−22	721	867	−146
1983-84	1	2,258	2,609	−351	725	990	−265

[1] Aged 5 and over for 1970-75 and 1975-80; aged 4 and over for 1970-74 and 1975-79; aged 3 and over for 1970-73 and 1975-78; aged 1 and over for 1975-76, 1980-81, 1981-82, 1982-83, 1983-84.

Source: U.S. Bureau of the Census, Current Population Reports, Series P-20, Nos. 262, 273, 285, 305, 320, 331, 353, 368, 377, 384, 393. Geographical Mobility, U.S. Government Printing Office, Washington, D.C. 1974 forward.

If one compares the two five-year intervals of 1970 to 1975 and 1975 to 1980, it appears that a slowdown of the net balance favoring nonmetropolitan areas occurred after 1975. The same conclusion would be drawn comparing the four-year interval 1970 to 1974 with 1975 to 1978, but on a basis of the two three-year surveys, a slightly larger net flow favoring nonmetropolitan areas is found in the latter half of the decade—1975 to 1978—than in 1970 to 1973. These data are subject to sampling variation, but they indicate that the turnaround began slowing at least by 1978. This is consistent with the findings of Richter (1985) using annual county estimates of net migration. She found the annualized nonmetropolitan net migration rate per 1,000 to be 8.8 in 1970 to 1974, 9.2 in 1974 to 1977, and 6.0 in 1977 to 1980.

Throughout most of the 1970 to 1984 period, young adults aged 20 to 29 continued to leave rural and small town communities for the cities and suburbs. The only exceptions are for the three surveys covering the interval from 1975 to 1978, which may be further evidence that the turnaround peaked at that time. In practice, the excess of departures to metropolitan areas probably began at age 18, the typical age of leaving high school. There was much movement in both directions, but presumably such factors as the need for higher education, the desire for a metropolitan life experience, or the search for a spouse sustained the traditional pattern of net flow throughout most of the period. At all other broad age groups, the net interchange was toward the nonmetropolitan communities until the very early 1980's, with the amounts fairly equally divided among children, adults 30 to 44 years of age, and those 45 years old and over.

One point that bears emphasis is the fact that even at the height of the rural turnaround from 1970 to 1975, the overall probability that a nonmetropolitan resident would move away to a metropolitan area was greater than the probability of a move by a metropolitan resident to a rural or small town community. The seeming anomaly that the residents of a population experiencing net inmovement should have the greater chance of outmovement is explained by the disparity in the size of the base populations. The surviving metropolitan base population in 1975 for measurement of 1970 to 1975 migration was 2.1 times as large as the nonmetropolitan population. However, since gross metropolitan outmovement was just 1.3 times that of gross outflow from nonmetropolitan communities, the rate of metropolitan outmigration was lower than that from nonmetropolitan areas. Specifically, 6.7 million metropolitan outmovers from 1970 to 1975 amounted to 5.5 percent of their base population, whereas the 5.1 million nonmetropolitan outmovers comprised 9.0 percent of their base. (U.S. Bureau of the Census, 1975).

The only exception to this pattern was among people of retirement age (65 years and over), where the trend to live in smaller communities was sufficiently strong that the probability of an inter-residential move for a metropolitan resident was greater than that for a nonmetropolitan counterpart.

CONCLUSION

The early years of both the 1970's and the 1980's produced reversals in the United States in the patterns of metropolitan and nonmetropolitan population change. The events of the 1970's constitute a prime example of the inability of demographers to foresee an inflection point in the trend of population distribution. The "rural turnaround" was actively underway for at least three years before it became first reflected in either formal statistics or in anecdotal journalistic evidence. An initial reluctance to credit its reality was followed by a truly voluminous research literature of documentation and explanation (Fuguitt, 1985). Now we must ask whether the events of the 1970s were an aberration. The trend of the early 1980's clearly requires that this possibility be considered. The economic circumstances that currently continue to affect adversely rural agriculture, mining, and manufacturing do not appear headed for early improvement. It would seem difficult now for conditions in the last half of the decade to change sufficiently to produce any net immigration into nonmetropolitan areas for the decade as a whole. But even if the pattern of the 1970's proves to be unique in this century, it was of major dimensions and lasting impact. There are now some millions more people living in open country and small town communities than would be there had earlier trends continued unchanged.[2]

We reiterate that the recent slowing of nonmetropolitan growth nationally is quite real, but is not a return to the cityward outpouring of people observed in the generation after 1940. Even in the widely effected agricultural areas, the losses are more a slow bleeding than a demographic hemorrhage.

Although a vigorous economic recovery in rural areas and small towns seems dubious in the near future, we regard as equally important the issue of the strength of social motivations to live in such areas. There seems no likelihood of average nonmetropolitan income levels fully reaching those in metropolitan areas, even if presumed but unmeasured cost of living differences are considered. A resumption of higher nonmetropolitan growth is probably dependent on the continued existence of a sizeable minority of metropolitan dwellers who perceive the quality of life satisfactions to be obtained by a migration to a rural or smaller community to be worth the income loss that many such migrants would experience. The strength of such perceptions was evidently strong in the decade of the 1970's, charged as that period was with the vigorous phase of the environmental movement and the somewhat anti-materialist flavor of the youth revolution. Residential preferences are a subtle amalgam in their make up and their strength subject to change. Whether the preferences on which migrants to nonmetropolitan areas acted in the 1970's have retained their importance in the 1980's is not, we think, definitively knowable. But there are suggestions in the record of the decade thus far that they have weakened.

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[2] In counties classed as nonmetropolitan in this chapter (1983 designation), the population would have been 5.6 million less than reported in 1980 had the 1960 to 1970 growth continued over 1970 to 1980. On the other hand, had the 1970 to 1980 growth continued into the 1980's, the 1983 population of these counties would have been almost one million greater than estimated.

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RURAL-URBAN DIFFERENCES IN MORTALITY IN THE UNITED STATES, 1970 TO 1980*

By William B. Clifford, Michael K. Miller, and C. Shannon Stokes**

The existence and persistence of differences between rural and urban America have been debated for over a century. Although rural society clearly does not exist as an independent system in contemporary America, there are documented differences in socioeconomic and demographic characteristics related to differences in the size of communities. One feature of rural America that has claimed distinction is health. Unique health problems of rural areas were asserted in the First Report of the Commissioner of Agriculture to President Abraham Lincoln in 1862 (Roemer, 1976). That health problems of rural areas continue to be a source of concern is evidenced by reading the invited testimony before the Joint Economic Committee of the Congress of the United States in 1985 (Cordes, 1985; Wright, 1985). The central message of that testimony is that rural areas are decidedly disadvantaged in terms of health status. A close reading of the available empirical evidence suggests the issue is not entirely clear. The purpose of this chapter is to examine briefly the evidence on mortality differentials between urban and rural America for the period 1970 to 1980. Such differentials indirectly address the existence and persistence of rural health disadvantages in the continental United States.

Published reports suggests that rural dwellers consistently have had an equal or higher prevalence of serious chronic health conditions (Kane, 1977), higher infant mortality rates (Matthews, 1974, Copp, 1976), more restricted activity days (Rosenblatt and Moscovice, 1982), and lower self-reported health status (Kleinman and Wilson, 1977) than their urban counterparts. Wright (1985) cites crude death differentials in Georgia and the United States and concluded that rural areas could be described as "health disaster areas."

Contrary findings suggest that the death experience of the most rural areas is no different from the most urban areas once age and sex differences are controlled (Miller, 1982); that, on balance, the death rates of metropolitan areas exceeded those of nonmetropolitan areas by 5 percent (and that difference occurred only among whites) (Kitagawa and Hauser, 1973; also see Clifford and Brannon, 1985), and that the lowest death rates in America tend to be concentrated in rural areas of the Great Plains and the Western Corn Belt (Sauer, 1974).

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Which set of the above findings is correct? In fact, neither is necessarily correct or incorrect. Rather, the apparently contradictory findings demonstrate a fundamental point. It is inappropriate and may be misleading to speak of *the* disadvantaged health status of rural America. There is not a homogeneous rural America and, depending upon how one defines *rural,* the results vary. Similarly, and more central to the current effort, any examination of mortality variation by residence is sensitive to compositional differences in the populations under consideration. To the extent that reported differentials in mortality merely reflect different demographic structures (age, sex, race, etc.), and these differences are attributed to residence per se, health policy decisions may be misguided and/or ineffectual. If the mortality experience of rural and urban areas is to be compared, it is imperative that, at a minimum, the confounding effects of age, race, and sex be eliminated. Only then can a valid estimate of the influence of residence be made. In the following sections we control the influence of age composition and then decompose observed mortality differentials to see how much of the variability is actually attributable to residence in comparison to the age, race, and sex structure of the population.

ANALYSIS AND FINDINGS

Table 1 shows avereage crude death rates for the United States for nine residence categories, ranging from core metropolitan counties with more than one million population to entirely rural counties with no place of 2,500 persons. In 1970, the three most rural group of counties had a crude death rate almost 24 percent higher than metropolitan counties. This difference decreased between 1970 and 1975 and decreased an even greater amount between 1975 and 1980. By 1980, the most rural counties of the Nation experienced a crude death rate that was still 16 percent higher than metropolitan counties.

TABLE 1.—CRUDE DEATH RATES BY RESIDENCE FOR THE CONTINENTAL UNITED STATES 1970, 1975, AND 1980 [1]

Year	Residence [2]									Rural/urban difference (percent) [3]
	Most urban counties			4	5	6	Most rural counties			
	1	2	3				7	8	9	
1970	9.11	8.71	8.77	9.88	11.11	10.40	9.85	11.42	11.68	+23.9
1975	8.63	8.44	8.30	9.19	10.34	9.65	9.18	10.70	10.87	+21.2
1980	8.49	8.39	8.08	8.86	9.82	9.12	8.76	10.09	10.20	+16.4

[1] Crude death rates are three-year averages centered on 1970 and 1975; the 1980 rates are two-year averages for 1979 to 1980.

[2] The residence categories are as follows: (1) core or fringe metropolitan counties with 1 million or more population; (2) metropolitan counties with 500,000 to 999,999 population; (3) metropolitan counties with 50,000 to 499,999 population; (4) nonmetropolitan, adjacent counties with the largest urban place 10,000+; (5) nonmetropolitan, adjacent counties with the largest place 2,500 to 9,999; (6) nonmetropolitan, adjacent counties with the largest place less than 2,500; (7) nonmetropolitan, nonadjacent counties with the largest place 10,000+; (8) nonmetropolitan, nonadjacent counties with the largest place 2,500 to 9,999; and (9) nonmetropolitan, nonadjacent counties with the largest place less than 2,500.

[3] The rural-urban percentage difference is calculated by dividing the average difference between the three most rural counties (categories 7-9) and the three metropolitan counties (categories 1-3), by the average of the metropolitan counties.

From a policy perspective, the key question is: why is the death rate higher in rural areas? Is higher mortality in rural areas primarily due to compositional differences in rural and urban populations, or, does it reflect residence-related differences in social, economic, environmental, and medical care factors? For example, if higher rural mortality is attributable to inequalities in access to medical care, the policy and programmatic implications are different than if they are primarily due to a concentration of older Americans in rural areas.

Age-Adjusted Death Rates for Sex and Color Groups

The influence of age composition has been removed from the rates in Table 2. In addition, the rates are separated by race and sex so that comparisons can be made between these groups.

TABLE 2.—AGE-ADJUSTED DEATH RATES BY SEX, COLOR, AND RESIDENCE FOR THE CONTINENTAL UNITED STATES, 1970, 1975, AND 1980 [1]

Year and color group	Residence [2]									Rural/urban difference (percent) [3]	White/nonwhite difference (percent) [4]
	Most urban counties						Most rural counties				
	1	2	3	4	5	6	7	8	9		
Males:											
1970:											
White	11.89	11.85	11.77	12.01	12.02	11.87	12.19	12.15	11.78	1.7	22.6
Nonwhite	14.81	13.82	15.00	14.85	14.75	13.50	15.68	15.51	13.92	3.4	
1975:											
White	10.77	10.90	10.82	10.96	11.07	10.97	11.18	11.33	10.89	2.8	22.0
Nonwhite	13.11	12.88	13.35	13.52	13.48	12.82	14.17	14.24	13.11	8.3	
1980:											
White	10.02	10.06	9.86	9.99	10.10	10.04	10.20	10.25	9.91	1.4	25.7
Nonwhite	12.24	12.28	12.60	12.68	12.84	12.40	13.25	13.20	12.17	4.0	
Females:											
1970:											
White	7.14	6.93	6.87	7.08	6.90	6.87	6.97	6.97	6.84	−0.8	38.0
Nonwhite	9.40	8.96	9.95	9.80	9.41	8.92	10.38	10.14	9.35	5.4	
1975:											
White	6.33	6.21	6.13	6.17	6.13	6.13	6.19	6.17	6.04	−1.5	33.1
Nonwhite	7.90	8.03	8.32	8.57	8.17	7.87	8.74	8.52	7.77	3.2	
1980:											
White	5.88	5.78	5.66	5.70	5.58	5.56	5.64	5.59	5.45	−3.7	31.7
Nonwhite	7.30	7.35	7.60	7.43	7.48	7.23	7.73	7.69	7.13	1.4	

[1] Adjusted using the 1970 U.S. population as the standard.

[2] See Table 1 for detailed description of residence categories.

[3] The rural-urban percentage difference is calculated by dividing the average difference between the three most rural counties (categories 7–9) and the three metropolitan counties (categories 1–3), by the average age-adjusted rate of the metropolitan counties.

[4] The white-nonwhite percentage difference is merely the average difference between the two groups expressed as a percent of the white average for all residence categories.

The age-adjusted death rates in Table 2 show decreases for every sex and color group for every residence category between 1970 and 1980. The sex and color differentials also reveal the expected patterns: nonwhite males have the highest death rates; white females have the lowest rates; while white males and nonwhite females occupy an intermediate position. Comparisons within a given sex and color group, but across the residence categories permits an examination of the residential mortality differential without the confounding influence of these factors.

The residence differential for white males drops to less than two percent in 1970 and 1980 when age is controlled. Stated differently, rural age-adjusted death rates for white males are less than two percent higher than those for white males living in metropolitan areas. The difference is slightly larger among nonwhite males, 3.4 percent in 1970 and 4.0 percent in 1980. The 24 percent higher rural mortality in 1970 then is reduced by a factor of at least three, and as much as 17 when age is controlled. The conclusion, at least for males, is that residence differentials in mortality are largely due to age composition differences between rural and urban areas.

In contrast to the small residential differences in age-adjusted mortality, the racial differential remains strong and actually increased between 1970 and 1980. Nonwhite males experienced 22.6 percent higher mortality than white males in 1970. By 1980, this difference had increased slightly to 25.7 percent. Consequently, although metropolitan residents continue to have a slightly lower death rate than the most rural population, this difference among males is relatively small in comparison to racial differences.

The picture among females is much the same. Residence differentials across the decade have been attenuated markedly at each of the three time periods. Further, rural areas no longer exhibit higher mortality rates in all instances. In fact, for white females, the mortality rate in rural areas is always lower than urban areas, and the rural advantage increased across time from less than one percent in 1970 to 3.7 percent in 1980. For nonwhite females the findings are the reverse. Rural areas have consistently higher mortality rates than urban areas, but the rural disadvantage has decreased over time from 5.4 percent to 1.4 percent. Assuming a similar rate of change for nonwhite females subsequent to 1980, the rural disadvantage should have been completely eliminated by 1985. In fact, if the pattern of residence mortality differences for females continued to exhibit the same trends witnessed during the 1970's, rural areas would be expected to have lower age-adjusted death rates for both white and nonwhite females by 1990. This situation already exists if a comparison is made between the most rural areas of the country (no place larger than 2,500) and the most urban (counties with at least one million inhabitants).

The data presented above demonstrate that the majority of the exaggerated mortality experience of rural areas seen in Table 1 is not attributable to being rural, per se. Rather, rural areas have higher crude death rates primarily because they have a different demographic profile. The data in Table 2 show how much of the residence difference is due to age composition and how much greater the racial difference is in comparison to the residence difference. When the death rates are averaged across all residence categories, the age-adjusted death rate for nonwhite females is approximately 38 percent higher than their white counterparts in 1970. The differential in that year is as high as 49 percent in nonmetropolitan areas with a town of at least 10,000 people. Over time, the racial gap for females has narrowed, but in 1980 the average nonwhite rate across all residence categories was still 31.7 percent higher.

Trends in Rural-Urban Mortality

The extent to which rural-urban differences in mortality primarily reflect compositional differences is best shown by comparing Tables 1 and 3. Table 3 shows what the death rates for each of the residence categories and time periods would have been if each population had the same age, sex, and racial composition. A comparison of crude death rates in 1970 (Table 1) revealed that rural counties experienced a death rate almost 24 percent higher than metropolitan counties. If these counties had identical age, race and sex compositions, the overall differential would have been 2.1 percent. In other words, the overwhelming majority of the rural-urban differential is due to compositional differences between residence categories, particularly the concentration of older Americans (with a greater risk of mortality) in rural areas.

TABLE 3.—AGE, SEX, AND RACE ADJUSTED DEATH RATES BY RESIDENCE FOR THE CONTINENTAL UNITED STATES, 1970, 1975, AND 1980 [1]

Year	Residence [2]									Rural/urban difference (percent) [3]
	Most urban counties			4	5	6	Most rural counties			
	1	2	3				7	8	9	
1970	9.52	9.30	9.40	9.63	9.53	9.37	9.73	9.73	9.37	2.1
1975	8.53	8.50	8.50	8.63	8.67	8.59	8.80	8.87	8.53	2.6
1980	8.00	7.95	7.85	7.95	8.00	7.90	8.05	8.10	7.75	0.5

[1] Adjusted using the 1970 U.S. population as the standard.
[2] See Table 1 for detailed description of residence categories.
[3] Rural-urban difference calculated using the procedure described in Table 2.

Although the 1975 data show a slight widening of the rural-urban differential, by 1980 the most rural counties had mortality rates almost identical to metropolitan counties. Further, the lowest death rate observed in Table 3 (7.75) is found among the most rural group of counties in 1980 (those counties with no place of 2,500 population).

CONCLUSIONS AND IMPLICATIONS

Rural-urban differentials in mortality continue to exist. Although differentials have narrowed somewhat over the past decade, by 1980 rural counties had a crude death rate that was still 16 percent higher than metropolitan counties. At first inspection, such a difference would appear to support the notion that rural areas are suffering disproportionately high death rates. However, a more detailed examination reveals that most of the difference between rural and urban counties is due to differences in their demographic structure, particularly their age composition. Rural areas have an age distribution more heavily skewed toward the older ages where mortality rates are higher and this difference accounts for most of the rural-urban differential in mortality.

Separating mortality rates by race and sex revealed significant variations across the residence categories included. Nonwhite males exhibited the greatest variation in mortality by residence. Yet, by 1980 nonwhite male mortality was less than 5 percent higher in rural counties than in metropolitan areas. Among nonwhite females, residence differences had almost disappeared by 1980. Perhaps the most interesting and surprising finding was for white females. This group not only displayed the lowest overall death rates, but the residence differentials indicated that rural white women experienced *lower* death rates than their urban counterparts. In addition, this difference widened over the decade.

In contrast to the small and generally decreasing differentials by residence, the racial differential remains large. Nonwhite males experienced an age-adjusted death rate roughly one-fourth higher than white males and this difference increased slightly over the decade. The difference between nonwhite and white females was even greater; nonwhite female mortality was approximately one-third higher than white in 1980. Notably, this difference appears to have declined between 1970 and 1980.

These findings point to a problem in discussing *the* rural population. Namely, there is no homogeneous rural population. Instead, there are many different *rural* populations defined in different ways and made up of different race, age, and sex groupings.

The question was asked earlier: is higher mortality in rural areas primarily due to compositional differences in rural and urban populations? The findings of this analysis suggest that the answer is in the affirmative. Does this mean that there are no differences in mortality and, by implication, the health care needs of rural and urban areas? The answer to the latter question is negative for several reasons.

The concentration of older populations in rural areas and the consequent higher crude death rates call for attention to the special needs of this population. For example, the primary need may not be for more physicians and more hospitals, but for improved access to extended care facilities, innovative use of existing facilities such as the use of underutilized acute hospital beds as swing beds and more in-home care provided by nurse practitioners, practical nurses, physician assistants or other paraprofessionals. Similarly, because the average life expectancy for females is approximately seven years longer than males, policies for rural America should consider the special health care and service needs of elderly females, including such items as transportation and social support networks. Additional health needs of rural Americans would likely be revealed if cause-specific mortality was analyzed. Rural areas, for example, have been shown to have higher death rates from accidents. Policies to address this situation might concentrate on educational programs for accident prevention in addition to making emergency medical and ambulance services more accessible to remote areas.

Finally, the large and persistent racial differential in mortality deserves close attention. To the extent that higher nonwhite mortality is primarily due to racial differences in socioeconomic status—and the available evidence indicates this is the case—the focus of public policy intervention should be on guaranteed access to education, jobs, and income in addition to access to health care resources.

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POPULATION GROWTH AND ECONOMIC DEVELOPMENT IN NEW ENGLAND*

By A.E. Luloff and George E. Frick**

Rural New England is not the quaint, picturesque home of agriculturalists it was in the past. It has undergone a transformation which has produced a series of quite distinctive rural characteristics and needs. Changes in her population and land use base bespeak the region's much altered profile and suggests that what is rural in New England is not based on employment in farming, fishing, forestry, or mineral extraction. The purpose of this chapter is to develop a sociohistorical profile of the relationship between population growth and economic development in New England with emphasis placed on the impact of these changes on the region's rural communities.

New England is a good site for such a study because of its central role in the development of the Nation. This region was the first to develop a well articulated agricultural economy. It was the first to experience rapid industrialization, which led to early patterns of rural to urban migration. A period of urban to rural migration, beginning as early as the turn of the twentieth century, was experienced in New England as well. All of these patterns point to New England as a harbinger of trends for the Nation.

Because of these patterns, New England faces many challenges in the rural areas. The early development of the exurban periphery means that much of the vital infrastructure—roads and highways, bridges, power lines, municipal water systems and buildings—is in disrepair. Great quantities of open space have been developed, and once plentiful access to public beaches (both fresh and salt water) have been severely restricted. Even the essence of the notion of a rural quality of life is under seige as more and more towns are forced to abandon local planning and zoning ordinances established to preserve the rural character of these towns. And with new residents, demands for expanded or new services generally arise. The responsibility for adequately dealing with these changes will fall squarely on the shoulders of the region's municipal (largely, voluntary) leadership.

Despite these uniquenesses, New England's experiences have parallels in the development of both the Mid-Atlantic and Southern Coastal States. For example, all three regions share a pattern of small village settlements along inland riverways and developed fishing settlements and trade centers along their coastal waters. All regions also developed significant forest industries in the more remote rural areas. The Middle Atlantic states likewise enjoyed an early period of industrialization, with growth and development of village settlements removed from, yet connected to, larger urban centers. Thus, we believe the lessons from a sociohistorical study of New England will provide important insights into the impacts of growth on the demographic, economic, and social structure of rural America.

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TRENDS IN NEW ENGLAND'S POPULATION

The first population concentrations in New England occurred along the coastal waterways and accessible river valleys. The predominate activity was agriculture. Large segments of the local coastal populations were engaged in fishing. The rich and productive offshore fishing banks and plentiful shellfish inventories promoted fishings' cornerstone role in New England's prosperity. In addition, the vast majority of New England's poor quality native soils was covered with forests. In 1790 roughly 30 percent of the region's land was in farms and 68 percent was in forests, with an additional 2 percent in urban areas.

From about 1630 to 1770 Southern New England's three States grew at roughly the same rate. At this point, the rate declined as Vermont, New Hampshire, and Maine were settled. According to historians of this period, much of the growth in the Northern tier was due to the movement of families out of Southern New England. The replication of town names is lasting evidence of this movement.

About mid-nineteenth century the southern tier states experienced a rejuvenation of growth rates. The impetus for this change was Southern New England's port activity and industrialization, both of which played a central role in the development of our nation. New England's textiles, metal wares, and boots and shoes were the first major goods to be exported to the rest of the nation and world markets. Major construction of mill buildings in seacoast communities and along the various inland rivers occurred providing places of employment for immigrants and women labor from the rural New England hinterland. This change was accelerated by the integration of the new industries to the Mid-Atlantic States via canals, railroads, and the beginnings of a highway network.

From the period of the turn of the twentieth century to about 1940, New England continued to experience a differentiation of rural and urban areas, with the southern New England States enjoying a relatively greater rate of growth than the Northern States. For the period 1900 to 1940, urban growth for the entire six state region was 67 percent as compared to a rural growth rate of 15 percent.

An examination of population concentrations for the period 1800 to 1980 helps to confirm these findings. Table 1 reports changes in population density for the six States comprising New England and for the region and Nation. The role of the rapidly developing economy, including the presence of a viable extractive industry is reflected in the region's density figures for 1800 when compared with the

Nation. Southern New England was vastly more populated than the rest of the country. In fact, Rhode Island in 1800 averaged roughly the same density as the Nation in 1980!

The differences between Maine, Vermont, and New Hampshire and their counterparts is remarkable given the total size of this region. With the exception of New Hampshire, which had good hydropower opportunities and easier access to the major markets of Southern New England, the industrialization process did not provide much of a spillover effect. The densities of these States remained relatively low throughout the period. Clearly, the rate of population increase for the region as a whole was driven by the experiences of the Southern States.

TABLE 1.—POPULATION DENSITY (PER SQUARE MILE), BY STATE, 1800 TO 1980

State and region	1800	1860	1920	1980	1800-1980 average annual rate of change
Maine	5.1	21.0	25.7	36.3	1.1
New Hampshire	20.4	36.1	49.1	102.4	0.9
Vermont	16.9	34.5	38.6	55.2	0.7
Massachusetts	52.6	153.1	479.2	733.3	1.5
Rhode Island	64.8	163.7	566.4	897.8	1.5
Connecticut	52.1	95.5	286.4	637.8	1.4
New England	19.9	50.6	119.4	196.0	1.3
United States	6.1	10.6	35.6	64.0	1.3

Changes in the occupational distribution reveals similar patterns. In pre-and-post revolutionary New England, farming, fishing, and forestry provided the sustenance activities for the state economies. As land opened in the west, and as rail service successfully competed with the port trade of New England, the share of its population involved in extractive industry declined. Between 1850 and 1920 the percent share of agricultural products to total value of agriculture, manufacturing, and mineral products declined from 37.1 percent to 12.5 percent for New England as a whole. Examining trends for the region however masks important differences. As late as 1920, the percent of total value of agricultural products for Massachusetts, Rhode Island, and Connecticut had dropped to 5.3 percent, 3.5 percent, and 9.2 percent respectively while Vermont, New Hampshire, and Maine still experienced 53.3 percent, 21.3 percent, and 41.0 percent values. On the other hand, the value added by manufacturing in the southern three States averaged greater than 93.7 percent (with no State value less than 90 percent) in 1920 while in Northern New England the average was 60.4 percent (with a range of 41.8 percent in Vermont to 77.9 percent in New Hampshire).

During this same period of time, a major restructuring of the population base began. The region suffered tremendous losses of population due to migration in the period 1860 to 1940. The vast majority of the migration from farming areas of New England occurred between 1840 to 1900. Then, with the onset of industrialization, out migration from the Southern New England States began to be offset. Interestingly, in the last part of the nineteenth century, a reversal of migration patterns between the two New England regions began with large numbers of people leaving Northern New England for the opportunities of employment in the southern three States. This differential pattern of migration was an early harbinger of patterns which emerged in the decades 1960 to 1980.

Beginning as early as the turn of the twentieth century there is evidence of a pattern of urban to rural migration. What makes this pattern so remarkable is that this migration was not to rural farm land, but rather to rural nonfarm land. New England led the nation in this movement, and in many respects continues to follow this pattern.

The entire region suffered a loss of 144,500 farms, from the period 1850 to 1974. Maine, New Hampshire, and Vermont moved from 105,800 farms to 14,700 farms and Massachusetts, Rhode Island, and Connecticut from 61,900 farms to 8,500 farms. Similarly, the total land in farms during this same period decreased from an aggregate of 19.4 million acres (6.4 million acres in the southern three States) in 1850 to 4.8 million acres (1.1 million acres in the southern three States) in 1974.

The peak period of land in farms for this region was 1880, when almost 21.5 million acres out of a total of roughly 40.3 million acres were in agriculture. As mechanization of agriculture occurred, the western farm States were settled, and the industrialization of New England took hold, much of the improved land of the early and mid-1800's was abandoned. Through the natural forest regeneration process, much of this land went out of agriculture. That land in farms had decreased less rapidly than the numbers of farms best reflects the consolidation of farms which has occurred over the past 40 years.

The shift out of land in farms (Table 2) has been greatest in the southern three New England States, although it has occurred in the remaining States as well. For the region as a whole, 61 percent of the land area was in farms in 1880. Since that peak year, there has been a steady decline to 1970, where it has stabilized.

TABLE 2.—PERCENT OF TOTAL LAND AREA IN FARMS IN NEW ENGLAND STATES, CENSUS 1850 TO 1978

State	Census year					
	1850	1880	1910	1940	1970	1978
Maine	23	33	32	21	9	8
New Hampshire	59	64	56	31	11	9
Vermont	70	82	79	62	32	30
Massachusetts	67	67	58	39	14	14
Rhode Island	82	78	66	33	10	11
Connecticut	77	79	70	49	17	16
New England	57	61	56	34	18	17

One type of transfer is of particular interest to this report. During the mid-twentieth century, New England began to experience a tremendous transfer of land in farms to other owners. This land became the market for those seeking second homes, recreation area, open spaces and/or natural wilderness areas, and, of course, the "country home." The latter topic has been the impetus of much recent literature on noneconomic motivations for migration and is tied directly to the importance of quality of life decisions for Americans.

More and more evidence has appeared which suggests that most Americans view country living as a goal. In New England, where densely settled population aggregates have been common, particularly in Southern New England, movement to suburban developments has been a fixture of human settlement patterns. As communication and transportation technologies have matured, commuting distances have increased, and with these increases, metropolitan sprawl has become more extensive. This movement to the suburbs, favorable attitudes towards land and home ownership, less congestion and safer environments, and natural surroundings have traditionally been found to be associated with one another. With increasing access to capital, and the existing (perceived and real) commuting infrastructure, more people are acting out their residential preferences in New England.

But, this is not a new phenomenon. With the outmigration of rural farmers, the State agricultural leadership in New Hampshire (for example) designed a program to shift urban dwellers to the rural countryside. This program ran for a number of years during the early 1900's. Today, each of the New England States have an active Department of Tourism, making use of all current media sources to promote the rural qualities of their States. The target audience, however, remains the same. Rural in New England is not simply defined by the number of people actively engaged in extractive industry.

DISCUSSION AND IMPLICATIONS

In this chapter, we have shown that agriculture has changed from an emphasis on self-sufficiency and production for local markets. In 1850 roughly 12 percent of the Nation's population, and 11 percent of its farmland were found in New England. Today, roughly 5 percent of the Nation's population and 0.5 percent of the farmland is in the region. Similarly, New England experienced major loss of both number of farms and land in farms during the period 1850 to 1978. Despite the loss of some formerly important farmland to urban and suburban uses, the majority of land not in production has reverted to brush and forest. If the economic conditions warranted, it is possible for some of these latter lands to be returned to agricultural production.

Neither mining nor fishing sustenance activities enjoy the kind of predominate role they played in the history of early New England. However, the latter is still an important part of the local economies of many communities along the long coastal seaboard of New England, while the former has received increased attention as new technologies have been brought into use in the search for mineral deposits in the Berkshires, and Green and White Mountain National Forests.

This region was also the first to industrialize. During the period of rapid industrial expansion, the region became the first to experience a decline in farming as the central pursuit of its populace. The fact that it was one of the first highly industrialized areas likewise meant that it had to deal with dislocations associated with the movement from extractive industries to manufacturing industries and to the newly developing tertiary industries of distribution, finance, insurance, education and research, and recreation.

Moreover, New England was the first region to experience the rural to urban migration pattern, and its reverse. Such shifts in population represented the influence of the industrial age and its byproducts. The popularity of the region's hinterlands today is a reflection of a traditional migration pattern tied to the economy of the region. In 1980 there were only 281 places out of a total of 1,566 with populations greater than 10,000, 244 of which were in Southern New England. Larger places lost population the past decade, while those less than 5,000 in size experienced an average growth rate of almost 30 percent. Such unprecedented growth in the region's rural and small towns has severely taxed all of the local budgets and seriously strained existing social, educational, and municipal service delivery systems.

The recently reported rural renaissance occurred first and much earlier in New England than in the rest of the Nation. This deconcentration of population has several policy considerations. With a more dispersed population, there is an immediate need for an expanded service delivery system. Most studies have suggested that nonmetropolitan areas of the country, particularly the more rural and remote sections, remain critically underserviced. For example, many mass transit services simply do not exist, and since deregulation, air, rail, and bus services among rural places have diminished greatly. Further, due to a program of deferred maintenance, much of the existing highway, road, and bridge infrastructure is in disrepair. In many cases what will be needed are entirely new systems. Deciding on the priorities for implementation and payment strategies (given current state and federal aid cutbacks) will take much time and creative initiative.

With continued reconcentration of population, great pressures will be placed on the region's natural resources. New residential, commercial, and industrial development will occur on former forest and agricultural land. The loss of such land contributes to the diminution of a lifestyle which helped to attract some of this growth in the first place. When the predominate employment opportunities of a region shift from extractive pursuits to secondary or tertiary activities, great changes occur. Such shifts can hardly be dismissed as the products of progress when little progress has been made in improving the conditions for natives of the area. Despite the efforts, rural America remains the home of more than two-thirds of the Nation's substandard housing and 40 percent of those in poverty, yet is eligible for less than one-fifth of the Federal housing dollars currently available. Such basic inequities will be heightened as a result of this growth.

Because the changes in the number of people (and their characteristics) in a region have a pervasive impact on all areas of planning, it is clear that the nonmetropolitan areas of New England will face many new challenges. Some researchers have suggested that the problems of growth and development may outstrip the benefits while others view it as a blessing. Regardless of one's position, it is clear that the impacted communities of New England, with their small budgets and volunteer leaders, appear to be facing severe tests of their problem-solving and decision-making capabilities.

New England is blessed with a landscape of infinite beauty and its romantic and nostalgic images will continue to play a central role in its development. But, it is difficult, at best, to attempt to describe today's New England as rural using any of the standard definitions now in vogue. As early as the turn of this century, the rural nonfarm population comprised the lion's share of the rural population, making the communities of these areas dormitories for the urban settlements. This pattern has continued throughout the latter half of the twentieth century. Its agriculture, fisheries, and forests are important, but they will never again achieve the central economic role they played during the years prior to 1880.

Yet, New Englanders still consider their region rural. Their definition is based on a nonfarm rural concept; one driven by an awareness of the central role manufacturing has played in all local economies. Their concern for maintaining their natural habitat is seen in the great variety of programs designed to ensure open space in New England and is highlighted by the number of purchases of agricultural development rights initiatives in operation (all six States are currently using such programs). Despite the fact that there are surplus agricultural products available on the national scene, and that the national agricultural policy is geared towards the retirement of productive agricultural land, New England is in the forefront of preserving land for continuous agricultural production.

A New England definition of rural does not take occupation, nor number of people, nor dollar volume of agricultural sales as the central defining characteristics. Rather it would begin with a concern for maintaining low densities of people to land, an ability to maintain relative privacy, a concern for proximity to open space, and a chance to participate in local government. These have been the central characteristics of population growth and economic development in this region.

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AN INCOME COMPARISON OF FARM AND NONFARM PEOPLE

By Mary Ahearn*

Adequate comparisons of the incomes of farm operators and their households relative to other households have not been available. Interest in this comparison began with concern about the low incomes of farm households over 50 years ago and contributed to the development of farm programs based on the well-known concept of parity. Although farm policy is no longer directly based on parity indicators, the interest in the relative status of farm households persists. Today, however, interest also exists because of the large transfer of funds from nonfarmers to farmers through the government farm programs and the tax system. The major purpose of this chapter is to describe the relative financial position of farm operators and their households.

TRENDS IN GOVERNMENT PAYMENTS

The Government's major farm programs are direct payments, mainly under commodity programs, and the administration of the Commodity Credit Corporation nonrecourse loan program. The Government also provides subsidized loans through its Farmers Home Administration, USDA, and provides potential insurance for the Farm Credit System which is regulated by the quasi-governmental Farm Credit Administration.

One implicit goal of farm policy has been to support farm incomes. Farm incomes are supported indirectly through support of agricultural commodity prices. Consequently, the more of the supported commodities produced by an operation the greater the eligibility for income support up to a limited amount (currently, $50,000). This concept of income support is distinct to farm policy and differs from the usual view held in general income policy of income support as providing an income floor. Income supports in farm policy are designed to support (i.e., increase) farm income to the sector and permit a "fair" return on production without regard to its distribution to people within the sector (with the exception of the $50,000 limitation).

In 1984, direct Government farm payments amounted to $8.4 billion. This is somewhat lower than the record high $9.3 billion in 1983. Both these years were particularly high because of the temporary Payment-In-Kind (PIK) program. Although budget outlays are sizeable and have grown over time, they have never amounted to a large portion of gross farm income. Figure 1 shows the trends in direct Government payments as a percent of gross farm income from 1940 to 1984. In 1984, they were 4.8 percent of gross farm income.

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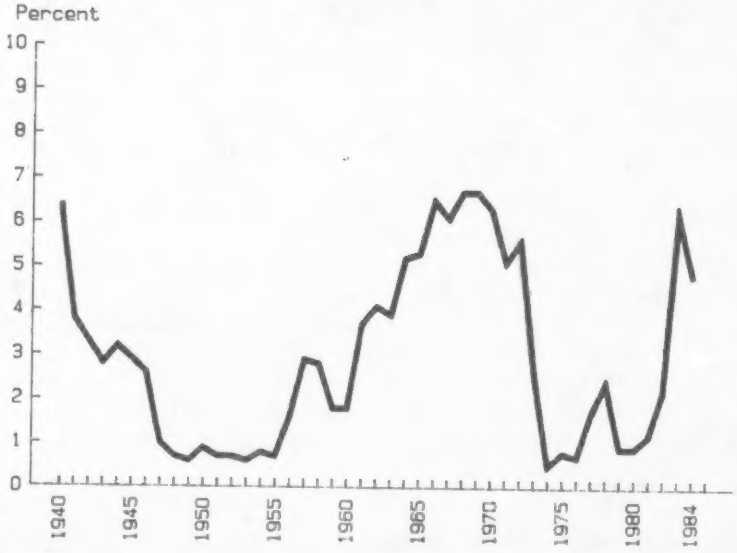
Figure 1.--Direct Government Payments As a Percent of Gross Farm Income



Source: (9)

The government also intervenes in agriculture through the income tax system. Individuals and corporations reporting farm income are eligible for several preferential tax code provisions (e.g., additions to capital assets can be treated as expenses). Sole proprietor farmers as a group pay less in taxes on their farm incomes to the Federal Government than their savings in taxes on their nonfarm income which result from their tax losses in farming. Reinsel estimated for 1982 that if farm income had not been taxed at all the total tax revenue received by the U.S. Treasury would have increased $3.8 billion [8].

IDENTIFYING FARM PEOPLE

Measuring the financial well-being of people associated with farms has been complicated by the use of more than one definition of the relevant population, sometimes leading to confusion over the populations. The definition employed in this chapter is farm operators and members of their households. By definition, the farm operator is the primary decisionmaker of the farming operation and so generally bears the major financial responsibility. A farm is a place that has actual or potential sales of agricultural products of at least $1,000.

Other definitions of people associated with farms are farm residents, those who have farm self-employment income, and those whose major occupation is operating or managing a farm. Farm residents, officially termed the farm population, are simply those persons who reside on farms in rural areas. This group includes resident workers as well as persons not actively associated with farm production. The residence concept excludes those who are involved with farm production if they do not reside on farms. In 1982, 21 percent of those operating farms did not reside on their farms. The popularity and relative accessibility of this concept can be explained by the fact that most of those benefiting from farm programs in the past resided on farms.

The second classification, those who receive farm self-employment income, includes operators and partners of unincorporated farms and unincorporated farm landlords who do not operate a farm. Therefore, operators of incorporated farms are excluded. Although only 3 percent of farms are incorporated, this type of organizational structure accounted for 24 percent of agricultural sales in 1982 and increased in numbers at the fastest rate between the latest Agricultural Censuses.

The final classification of farm people is an occupationally-based one. It is defined as the occupation in which a worker spends the majority of his or her work time during the relevant period. The farming occupational category is defined to be composed of farm operators and managers. Because it only includes individuals whose major occupation is farming, it excludes operators for whom farming is not the primary occupation. In 1982, 45 percent of farms had operators whose major occupation was not farming.

HETEROGENITY OF FARM OPERATOR HOUSEHOLDS

Farm operator households represent a heterogenous group in terms of their financial positions because their farm businesses are so diverse. Farms can range in size from a place that usually sells $1,000 in products to a diversified corporate operation with millions of dollars in sales. Table 1 presents some general information by the value of agricultural sales classes for 1984. The smallest farms (less than $40,000 in sales) represent about 70 percent of all farms, 10 percent of sales, 11 percent of direct Government payments, 82 percent of off-farm income, and with a negative net farm income. In contrast, the largest farms (those with $500,000 or more in sales) are only 1.3 percent of all farms, but account for 33 percent of sales, 12 percent of direct Government payments, and 1 percent of off-farm income. The largest farms average over $400,000 in total income. Interpreting the representativeness of an average income for all farm operator households is problematic because of the great heterogeneity among households.

TABLE 1.—DISTRIBUTION OF FARMS AND INCOME AND AVERAGE INCOMES BY THE VALUE OF AGRICULTURAL SALES CLASSES, 1984

Farms with sales of—	$500,000 and over	$100,000 to $499,999	$40,000 to $99,999	Less than $40,000	All farms
Number of farms (percent)	1.3	13.2	15.2	70.3	100.0
Value of sales (percent)	32.7	41.7	15.6	10.0	100.0
Direct Government payments (percent)	12.4	54.1	22.2	11.3	100.0
Off-farm income (percent)	1.1	8.3	8.6	82.0	100.0

TABLE 1.—DISTRIBUTION OF FARMS AND INCOME AND AVERAGE INCOMES BY THE VALUE OF AGRICULTURAL SALES CLASSES, 1984—Continued

Farms with sales of—	$500,000 and over	$100,000 to $499,999	$40,000 to $99,999	Less than $40,000	All farms
Average household income (dollars):					
Farm [2]	$423,063	$44,500	$6,073	−$1,387	$11,471
Off-farm	14,438	10,902	9,719	20,021	17,188
Total [2]	437,501	55,402	15,792	18,634	28,659

[1] Includes net Commodity Credit Corporation loans.
[2] Does not include the value of the change in inventories.
Source: [9].

INCOMES OF FARM AND NONFARM PEOPLE

There is only one annual source of data on the financial wellbeing of both farm and nonfarm populations, the *Current Population Survey* (CPS). This data source does not include data on farm operator households but distinguishes the farm and nonfarm populations by whether or not they reside on farms, whether or not their major occupation is farming, and whether or not farm self-employment income is earned. The advantage to this data source is that the population and the income are defined consistently for any given year. With the exception of a few years, the farm populations generally had lower average incomes than the corresponding nonfarm populations. Since income is consistently defined, the variation in the relative status of farm to nonfarm populations is a function of the way in which the population is defined.

Because the CPS does not provide annual data on farm operator households and the USDA does not estimate the income of nonfarm households, a farm operator households-nonfarm households comparison has not been readily available. Instead, second-best comparisons have been made using the residential, occupational, or farm self-employment data or else the USDA farm operator household income estimates have been incorrectly compared to one of the readily available nonfarm population income estimates.

The major problem with the comparison of the USDA farm operator household income series to the money income of U.S. households is the lack of consistency in the definition of income. The USDA estimate includes the value of the change in inventories, the imputed rental value of farm dwellings, and the value of home-consumed, farm-produced commodities—all nonmoney income items. The income of U.S. households, in contrast, includes only money items [11].[1]

The value of the nonmoney income items are significant and unique components of the income of farm operator households. However, nonfarm households receive larger amounts of other sources of nonmoney income relative to farm households, e.g., food stamps, life insurance, and health insurance [4,6]. Including the nonmoney income items for farm households is inappropriate because a complete accounting of all sources of nonmoney income is not available for both farm and nonfarm populations.

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[1] A measurement problem remains, aside from the definitional inconsistency. The CPS data is known to provide an underestimate because of known underreporting by respondents while the agricultural sales component of the USDA estimate is derived from actual production data rather than from farmers' reports of their receipts [5].

The USDA farm operator household income definition can be adjusted to more closely correspond with the definition of the U.S. household money income estimate. These adjustments are made in Table 2 for 1960 forward. Basically, the nonmoney items are excluded and the cash wages and salaries that farm establishments pay operators and their household members are included for recent years when data are available.

TABLE 2.—COMPARISON OF THE ADJUSTED USDA TOTAL INCOME OF OPERATOR HOUSEHOLDS AND THE AVERAGE U.S. MONEY INCOME

Year	USDA farm operator income		Gross rental value of farm dwellings (millions)	Value of farm-produced and consumed food (millions)	Value of the change in inventories (millions)	Wages paid to self (millions)	Adjusted USDA farm operator income (millions)	Average adjusted USDA farm operator income	Average U.S. money income [1]	Ratio of farm to U.S. population income (percent)
	Per-farm	Total (millions)								
1960	$4,969	$19,693	$2,098	$1,135	$397	NA	$16,063	$4,053	$6,627	0.61
1961	5,522	21,120	2,202	1,109	336	NA	17,473	4,568	6,471	0.71
1962	5,950	21,968	2,258	993	620	NA	18,097	4,902	6,670	0.73
1963	6,380	22,790	2,360	921	629	NA	18,880	5,286	6,998	0.76
1964	6,401	22,129	2,443	835	−817	NA	19,668	5,689	7,336	0.78
1965	7,636	25,626	2,481	811	1,042	NA	21,292	6,344	7,704	0.82
1966	8,548	27,842	2,599	824	−83	NA	24,502	7,523	8,395	0.90
1967	8,486	26,834	2,747	736	657	NA	22,694	7,177	7,989	0.90
1968	9,049	27,788	2,838	719	124	NA	24,107	7,850	8,760	0.90
1969	10,302	30,905	3,046	731	99	NA	27,029	9,010	9,544	0.94
1970	10,845	31,983	3,268	776	6	NA	27,933	9,472	10,001	0.95
1971	11,758	34,122	3,475	744	1,397	NA	28,506	9,823	10,383	0.95
1972	14,238	40,722	3,713	889	861	NA	35,259	12,328	11,286	1.09
1973	20,925	59,070	4,147	1,115	3,406	NA	50,402	17,854	12,157	1.47
1974	19,822	55,402	4,942	1,190	−1,611	NA	50,881	18,204	13,094	1.39
1975	19,614	49,447	5,355	1,128	3,399	NA	39,565	15,694	13,779	1.14
1976	18,765	46,856	6,115	1,182	−1,548	NA	41,107	16,463	14,922	1.10
1977	18,730	46,002	7,250	1,160	1,080	NA	36,512	14,866	16,100	0.92
1978	23,447	57,116	8,057	1,120	2,130	NA	45,809	18,805	17,730	1.06
1979	26,980	65,562	9,270	1,245	5,045	NA	50,002	20,577	19,554	1.05
1980	22,741	55,328	11,045	1,134	−5,928	NA	49,077	20,171	21,063	0.96
1981	27,406	66,705	12,597	1,124	5,751	NA	47,233	19,406	22,787	0.85
1982	26,030	62,497	12,936	1,048	−1,430	$2,025	51,968	21,644	24,309	0.89
1983	22,697	53,791	12,122	973	−10,565	1,858	53,119	22,413	25,401	0.88
1984	32,020	74,543	11,900	988	7,827	1,248	55,076	23,658	27,464	0.86

[1] For 1960 to 1966 data are for families. For 1967 forward data are for households.

NA - Not available.

Source: [9,11].

The imputed value of the rental services derived from farm dwellings is the major source of adjustment to the USDA series. In 1984, it accounted for over half of the adjustment to the USDA estimate of total operator income. The imputed rental value has increased over time at about the same rate as the value of farm real estate [1]. The value of farm produced and consumed food has remained relatively stable in nominal terms. This is because the increase in the price of commodities has offset the decline in the quantity of farm produced and consumed foods which occurred as the farm population declined. The most volatile of all the income components is the value of the inventory change. In 1983, the inventory adjustment was −$10.6 billion compared to $7.8 billion in 1984. In 1983, the inventory adjustment almost offset the gross imputed rental value adjustment leaving very little difference on balance between the adjusted and unadjusted estimate. The only positive adjustment to the USDA series is the addition of the value of cash wages and salaries farm establishments pay their own operators and household members. This practice has likely been increasing over time, especially as more farms are becoming incorporated. However, data have only been collected very recently. The definitional adjustments will generally lower the USDA estimate. The adjusted USDA series ranged from .71 to .99 of the unadjusted series.

Household income data have only been collected on the CPS since 1967; and since farm operator households are not identified on the CPS, households other than farm operators cannot be identified. Therefore, the average money income of farm operator households is compared to the average money income of U.S. families until 1967 and for households, thereafter (Table 2). The income estimates for the U.S. populations include the incomes of the unemployed, in contrast to the farm population, who by definition are employed in farming. On average, farm operator households' income has been about 94 percent of all households' income in the U.S. In seven of the years since 1960, farm households have actually had incomes higher than the average U.S. income. In 1973, farm households had a money income of $17,854 compared to a U.S. average of $12,157. More recently, however, farm households averaged $23,658 compared to $27,464 for all U.S. households in 1984.

WEALTH CONSIDERATIONS

The farm-nonfarm household comparison of income does not consider wealth, the other major factor affecting financial well-being of households. An alternative accounting of well-being would include an estimate of the real capital gains on assets for the time period along with current money returns. Farm operator households generally have a lower ratio of income to net worth than do other households because of the large capital requirements necessary to earn a living in agriculture. Nonfarm households depend more on their human capital and their supply of labor to generate their incomes. Inclusion of real capital gains would have the effect of raising the well-being of farm operator households relative to other households in times of asset appreciation. Unfortunately, these data are not currently available in the CPS or any other series. McConnen estimated that from the mid-1960's through 1978 per capita income, including real capital gains, of farm operator households exceeded the nonfarm per capita income including real capital gains [7]. Because real capital gains are not realized until the asset is sold, they can be a fleeting source of "income" and not directly comparable to money income. In fact, real capital gains in the farm sector have been negative beginning with 1981. The sector has lost 89 percent of the real capital gains which accrued during the recent boom period for farm assets from 1971 to 1980.

In spite of the recent decline in asset values, farm operator households on average are still wealthier than nonfarm households (Table 3). The average farm equity of farm operator households in 1984 was over $250,000 compared to an average U.S. family equity of $66,050 in 1983.[2] (The latest data available on wealth of U.S. families is from a 1983 University of Michigan survey). Over 60 percent of farm households have equity greater than $100,000 compared to only 17 percent of all U.S. families. Table 3 compares the ratio of income to equity. Farm households have greater equity than nonfarm households at all income levels. The income to equity ratio for all U.S. families is 39.8 percent compared to 8 percent for farm operator households. As incomes increase, equity generally increases at a slower rate as indicated by the positive relationship between the income category and the income to equity ratio for both populations. Even the low income farm households have high farm equity values on average. The average income of farm households in the lowest income group was negative but their average equity was over $250,000. This category of farms contains many of the farms under stress as a result of large interest payments on their debt.

TABLE 3.—A COMPARISON OF RATIOS OF MONEY INCOME TO EQUITY FOR FARM OPERATOR HOUSEHOLDS AND ALL U.S. FAMILIES

Income category	U.S. families, 1983			Farm operator households, 1984		
	Average money income	Average equity	Ratio of income to equity (percent)	Average money income	Average farm equity	Ratio of income to farm equity (percent)
Less than $5,000	$3,306	$12,051	27.4	−$21,027	$252,909	−8.3
$5,000 to $7,499	6,113	20,146	30.3	6,259	152,206	4.1
$7,500 to $9,999	8,712	27,832	31.3	8,742	173,851	5.0
$10,000 to $14,999	12,428	36,277	34.3	12,537	163,431	7.7
$15,000 to $19,999	17,271	36,816	46.9	17,419	154,955	11.2
$20,000 to $24,999	22,137	45,564	48.6	22,333	202,371	11.0
$25,000 to $29,999	27,071	60,513	44.7	27,262	204,040	13.4
$30,000 to $39,999	34,289	69,083	49.6	34,550	217,683	15.9
$40,000 to $49,999	44,096	95,658	46.1	44,509	271,817	16.4
$50,000 and more	87,873	262,254	33.5	132,864	567,968	23.4
Total	26,259	66,050	39.8	20,191	253,157	8.0

Source: [2,3] and unpublished Federal Reserve Board data.

Due to the highly capital intensive nature of the agricultural industry, operators are required to make large investments to run a full-scale farming establishment. Therefore, the compliment to the situation of relatively low income to net worth ratios of farm operator households is that operators earn a low return on their investments relative to nonfarm investments. In 1984, the returns to equity for all farm asset owners (operators and landlords) was 2.8 percent. When unrealized capital gains are included, the returns to equity were a negative 13.3 percent [9].

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[2] In 1979, farm equity was 95 percent of the total equity held by farm operator households [10].

OTHER FARM RESOURCE OWNERS

If a farm-nonfarm income comparison is being related to the topic of government involvement in agriculture and the transference of income from nonfarmers to farm people, then the income comparisons presented thus far are deficient in one additional respect. Individuals other than farm operators are eligible for farm program payments. Farm landlords not operating a farm themselves receive government benefits. USDA estimated that in 1984 approximately 1.6 million farm landlords who did not operate a farm received about 87 percent of the $5.4 billion in net rent paid out to landlords, including over $400 million in direct payments received from government farm programs. Very little is known about this group of farm resource owners who should be included in a farm-nonfarm comparison when government payments are the issue. The farm self-employment families population described earlier does include farm landlords who do not operate a farm if they receive share rent from unincorporated farms. The income of the farm self-employment families population has historically been higher than other farm populations, in part, because this group includes landlords who do not operate farms themselves.

CONCLUSIONS

An average income of farm operator households masks a great deal of variation in well-being. In addition, production of commodities is concentrated in a relatively small number of farms. In 1984, three-quarters of the sales of agricultural commodities were from less than 15 percent of all farms. These large farms receive about 70 percent of the direct Government farm payments. However, farm income supports historically have not been designed to redistribute income among farmers.

Comparisons of the incomes of farm and nonfarm people are often made during times of financial stress for farmers and during critical periods in the development of farm policies. Both have been true in recent times when opponents of traditional farm policies criticized the budget outlays for farm programs. However, no appropriate published series is readily available to compare the incomes of farm people with overall average incomes when the farm population of interest is households who operate farms. This chapter has shown how a comparable series can be developed with currently available data.

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SOCIAL DIMENSIONS OF FARMLAND OWNERSHIP IN THE UNITED STATES [*]

By Craig K. Harris, Jim McAllister, and Jess Gilbert

The pattern of ownership and control of land is crucially important not just to United States agriculture but to the broader society as well. Land is wealth. It is one basis for the generation of income; it can also "shelter" income. Land can appreciate in economic value without human labor. It is a part of nature, spatially situated and immobile, relatively nonreproducible and indestructible, fixed in supply, and variable in quality. Thomas Jefferson believed that a wide distribution of land provided the backbone for democratic government. Many Americans still share this belief. Land also may have psychological and cultural significance, offering, for instance, the pride of ownership and a sense of personal security. Yet, students of society understand disturbingly little about the ownership and control of this resource base. Even within agriculture, where land is an essential means of production, too little is known.

The literature on land ownership suggests several issues of importance, especially with regard to farmland. The first concerns types of ownership. The amount of farmland owned by corporations, or by foreigners, or by absentee owners, and their reasons for owning farmland, are of concern to resource policymakers. The second issue is tenure or the distribution of property rights in land. The increasing prevalence of part-owner operators and nonoperator landlords are foci of concern to policy makers. The third issue concerns the concentration of farmland ownership and, at the same time, the parcellation of farmland among many owners. We have presented the results both of previous studies and of recent research on these three issues elsewhere (Gilbert and Harris, 1984; Harris and Gilbert, 1985; Harris, Gilbert and McAllister, 1986).

The fourth issue concerns the demographic characteristics of farmland owners. How is farmland distributed among different racial and ethnic groups, or among various age groups, or among different occupational groups? How much is owned by men and by women? These questions reflect that most often asked one of the seventies, "Who owns the land?" (cf., Barnes and Casalino, 1972; United States Department of Agriculture, 1979; Wehrwein, 1922). It is these questions we will examine in this chapter.

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[*] We would like to express our appreciation to the Natural Resource Economics Division of the United States Department of Agriculture, and especially its former director, Melvin L. Cotner, for making the 1978 Land Ownership Survey data available to us. This paper is Michigan Agricultural Experiment Station Journal Article and a contribution to USDA CSRS Regional Project S-198.

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In doing so we will rely upon the results of the 1978 Land Ownership Survey (LOS), conducted by the Natural Resource Economics Division of the United States Department of Agriculture (USDA). Details of the sampling and data collection procedures employed are contained in J. Lewis (1980). Although the 1978 Survey covered all types of land, we will discuss only those respondents who reported the ownership of some farmland. According to the LOS, there were 6.9 million owners of farmland in 1978; this excluded land in any form of public ownership (e.g., prison farms) and farmland on Indian reservations. These owners held 938 million acres of farmland. In this chapter we will examine the data only from respondents who owned farmland as individuals, husbands and wives with joint ownership, or partnerships. Thus, we exclude corporate and other institutional landowners since they were asked to skip the section of the questionnaire on individual characteristics. For partnerships, the respondents were asked to report these characteristics for the major decision maker.

RACE

The first social dimension of farmland ownership we will examine is the distribution among racial and ethnic groups. As Table 1 shows, whites are slightly more likely to own farmland than their frequency in the adult population would lead us to expect, while blacks, Hispanics, and others [2] are less likely to own farmland than expected. The percentage of farmland held by the various racial/ethnic groups is displayed in the third column of Table 1. Blacks own considerably less land than one would expect on the basis of their frequency of landownership, whites own slightly more, and the other two categories own slightly less. This distribution of land reflects the fact that the average acreage owned by blacks is less than one-fifth the size of the average white acreage.

TABLE 1.—OWNERS, ACREAGE AND VALUE OF FARMLAND BY RACE

[In percent]

	Population	Owners	Total acreage	Total value
White	81.6	93.9	97.8	98.4
Black	10.5	4.1	.8	.7
Hispanic	3.3	1.0	.8	.5
Other	4.6	1.0	.6	.4

Source for population data: U.S. Bureau of the Census, 1980: Tables 47 and 49.

The distribution of land by value, shown in the fourth column of Table 1, shows even greater racial/ethnic disparities.[3] Again, whites own a slightly larger percentage of land value than one would expect on the basis of the acreage distribution, while all other categories own somewhat less. This distribution of land value reflects the fact that the value per acre of land owned by blacks and Hispanics is roughly half of that owned by whites. Racial and ethnic classification affect not only the amount and value of farmland owned but also the way in which it is owned. White owners are underrepresented in family partnerships and disproportionately likely to form nonfamily partnerships while the opposite is true for black farmland owners. Hispanics and others are underrepresented in both kinds of partnerships but, nevertheless, Asian-Americans are highly disproportionately likely to form family partnerships (Light, 1972).

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[2] Conclusions about groups other than whites and blacks must be regarded as very tentative because of the low absolute numbers of members of these groups that are present in the sample. Whereas 21,368 whites and 210 blacks responded to the questionnaire, only 120 Hispanics, 54 Native Americans, 17 Asian-Americans and 33 others are in the sample. For that reason, the last three categories (104 responses) are grouped together here and classified as "other".

[3] The figures for acreage and for value are not exactly comparable because land with reported per acre value of zero dollars or more than $250,000 is excluded from the tabulation.

Tenure of landholding also varies by racial and ethnic groups.[4] Blacks are less likely than one would expect to be full- or part-owner operators and they are disproportionately likely to be nonoperator nonlandlords. In contrast, Hispanics are likely to be full-owner operators and unlikely to be part-owner operators while the reverse is true for others. Like blacks, Hispanics and others are disproportionately likely to be nonoperator nonlandlords. Hispanics are relatively unlikely to be in any of the landlord categories; blacks are slightly disproportionately likely to be full-owner operator landlords; and others—while having slightly higher proportions of full-owner operator landlords and nonoperator landlords—have a very high proportion of part-owner operator landlords. Given the historic pattern of landholding by blacks, it is somewhat surprising that they are relatively unlikely to be tenant owner operators.

GENDER

Traditionally, men have dominated farm operations and farmland ownership as well as been the focus of scholarly research on those activities. This remains true although women are increasing their involvement in agriculture and are becoming research subjects in their own right (e.g., Hill, 1981; Jones and Rosenfeld, 1981; Fassinger and Schwarzweller, 1982; Kalbacher, 1982; Coughenour and Swanson, 1983; Sachs, 1983). The following results for the ownership of farmland by gender probably underestimate the ownership interests of women. In husband-wife and family partnership units, a male was more likely to respond (Daugherty and Otte, 1983). To this extent, the female role in ownership is not fully represented below.

As with other forms of wealth (Tickamyer, 1981), farmland is extremely unequally distributed by gender. In 1978, 84 percent of all owners were men and they owned 85 percent of the land (Table 2). The mean size holdings show that the average female owner had 81 percent as much land as a male in 1978 and that it was worth 78 percent as much as the average male owner's value.

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[4] It is possible to delineate eight tenure categories from the LOS data. Full-owner operators operate their own farmland and do not rent any farmland to or from others. Part-owner operators also operate their own land, do not rent farmland to others, but do operate farmland rented from others. Full-owner operator landlords operate some of their own farmland and rent some of it to others, but do not rent in any farmland. Part-owner operator landlords operate some of their own farmland and rent some of it to others, and operate farmland rented from others. Tenant owner operators own farmland but do not operate it and do not rent it out; all of the land they operate is rented from others. Tenant owner operator landlords are similar to tenant owner operators, except that they rent out some or all of the farmland they own. Nonoperator landlords do not operate any farmland but do rent some or all of the farmland they own to others. Nonoperator nonlandlords report the ownership of farmland but do not operate it or any other farmland, and do not rent it out.

TABLE 2.—OWNERS, ACREAGE AND VALUE OF FARMLAND BY GENDER

[In percent]

	Owners	Total acreage	Total value
Men	83.9	85.2	86.0
Women	16.1	14.8	14.0

Women are more likely to hold farmland as landlords (both nonoperator landlords and full-owner operator landlords) than men are, and are less likely to be nonlandlord operators than men. It would appear that women are relatively unlikely to be involved in nonfamily partnerships.

AGE

In contrast to the general population, the age distribution of farmland owners shows a slight tendency toward concentration at the older ages (see Table 3). Although 28 percent of the landowners are less than 45 years old, they own only 20 percent of the land. At the same time, landowners between the ages of 55 and 64 own 26 percent of the land but are only 21 percent of the owners. This tendency toward concentration is ameliorated somewhat by the tendency for older owners to own less valuable land than younger owners. Indeed, the 10.3 percent of the owners over age 74 own only 9.9 percent of the value of the farmland.

TABLE 3.—OWNERS, ACREAGE AND VALUE OF FARMLAND BY AGE

[In percent]

	Population [1]	Owners	Total acreage	Total value
25 to 35	28.0	10.3	5.8	6.8
35 to 44	19.3	18.1	14.0	16.6
45 to 54	17.1	22.7	23.9	23.6
55 to 64	16.4	21.4	26.3	25.4
65 to 74	11.7	17.2	19.2	17.7
Over 74	7.5	10.3	10.8	9.9

[1] General population aged 25 and above, from U.S. Census, 1980 p. 67, Table Table 98.

Age also affects the form of farmland ownership. Owners over age 45 are likely to be in family partnerships while younger owners are unlikely to be. At the same time, owners over age 65 are unlikely to be in nonfamily partnerships while owners under age 54 are likely to be in these arrangements, reflecting the historical shift toward more nonfamily partnerships. Farmland owners younger than 44 are not likely to be landlords while those over 65 are likely to be landlords. Owners over 65 are not likely to be in the operator categories except for the full-owner operator landlord group. Males less than 34 years old appear to be likely to be nonoperator nonlandlords but this may reflect the reporting bias mentioned above. Females younger than 44 are likely to be full-owner operators and part-owner operators, reflecting the increasing involvement of women in farm operation. Contrary to the findings of Geisler et al. (1985:85), age is not more likely to affect landlord status for women than for men.

In summary, an obvious concentration of ownership exists among older persons. One implication of the continuing concentration is that most farmland will probably change hands within the next two decades. This eventuality of intergenerational transfer raises the issue of access to the land, especially for young farmers (Coffman, 1979; see Geisler et al., 1983). Who will own and control the 56 percent of the farmland held in 1978 by persons 55 years and over? If post-World War II trends persist, then the twenty-first century will also see a concentration of farmland ownership among older people.

OCCUPATION

One of the most complex aspects of farmland ownership is the occupation of landowners. Concern is raised to the extent that farmland is owned by persons whose primary occupation is not farmer. It is of even greater concern when certain occupational groups outside of agriculture control disproportionate amounts of farmland. As Table 4 shows, the ownership of farmland is spread across all occupations, but is dominated by farmers and retired persons; we suspect that many of the retired persons are former farmers. The Farm Finance Survey (U.S. Bureau of Census, 1982: 227, Table 92) found that 21.3 percent of landlords were persons who had retired from farming or a farm related occupation, and that an additional 13.1 percent of landlords had retired from other occupations.

Comparing the distribution of farmland owners with the distribution of occupations in the population (columns 1 and 2 in Table 4) gives a sense of which occupational groups are more likely to own land than one would expect just by chance. In order to clarify this comparison, we have adjusted the BLS occupational distribution on the assumption that farmers, farm laborers, housewives, and retired and "other" persons are the same percentage of the labor force as reported in the LOS. Given this assumption, it would appear that only physicians, dentists, lawyers, judges, and realtors are more likely to own farmland than their incidence in the labor force would lead us to expect.

TABLE 4.—OWNERS, ACREAGE AND VALUE OF FARMLAND BY OCCUPATION

[In percent]

	Population	Owners	Total acreage	Total value
Physicians, dentists	0.4	1.4	1.2	1.3
Lawyers, judges	.2	.4	.9	1.0
Other professionals	6.3	5.7	3.4	3.7
Managers and administrators	4.9	7.3	5.2	6.0
Realtors	.3	1.3	.8	1.2
Other sales	2.6	3.4	1.6	2.2
Clerical	8.2	2.2	1.2	1.4
Crafts	6.0	10.0	3.5	3.9
Operatives	7.0	7.0	2.6	2.6
Laborers (except farm)	2.3	4.0	1.5	1.8
Farmers and farm managers	(1)	25.1	56.4	52.3

TABLE 4.—OWNERS, ACREAGE AND VALUE OF FARMLAND BY OCCUPATION—Continued

[In percent]

	Population	Owners	Total acreage	Total value
Farm laborers and forepersons	([1])	.6	.4	.3
Services	6.3	1.9	.5	.7
Retired	([1])	24.0	16.7	17.3
Housewives	([1])	4.4	3.4	3.8
Other [2]	([1])	1.4	.9	.5

[1] Not available.

[2] Includes Military and Unemployed.

Source for population data: United States Department of Labor Bureau of Labor Statistics (1979:172-173) as adjusted, see text.

By comparing the distribution of farmland owners with the distribution of farmland acreage and farmland value (columns 3 and 4 in Table 4), one can see whether some occupational groups own more acreage or value than one would expect given their proportion in the occupational distribution. It is understandable that farmers own a larger percentage of the farmland than their relative frequency would lead us to expect but it is somewhat surprising that lawyers and judges own twice the percentage of farmland that we would expect. The percentage of the total value owned by each occupational group is approximately equal to the percentage of land owned by that group so it would appear that no group tends to have land of exceptionally high or low value. The two groups which do show some deviation are "other" persons with land of low value and realtors with land of above average value.

All occupational groups tended to hold their land as proprietorships but lawyers and judges were more likely than the other groups to hold their land as family partnerships and all professional groups were likely to be involved in nonfamily partnerships. Farmers and farm managers were likely to participate in partnerships of both types. The relationship between occupation and tenure, however, is somewhat more complicated. Farmers were likely to be part-owner operators, part-owner operator landlords, tenant owner operators, and, as one would expect, full-owner operators. Surprisingly, managers and administrators as well as persons employed in services were also likely to be full-owner operators, reflecting the entry of nonfarmers into farmland ownership and operation. Realtors and other sales personnel, farm and nonfarm laborers, and physicians and dentists were likely to be nonoperator nonlandlords. Physicians and dentists were also likely to be full-owner operator landlords and nonoperator landlords, as were lawyers and judges, again reflecting the entry of nonfarmers into farmland ownership and operation. Housewives were also likely to be in these two tenure categories, reflecting both their historical status as landladies and their increased involvement in operation. Clerical and retired persons were also more likely to be nonoperator landlords. Of all the occupational groups, real estate agents and other salespersons, lawyers and judges, managers and administrators, physicians and dentists, and farmers were most likely to own land in other counties or states but, of these groups, only lawyers and judges, farmers, and real estate agents were likely to own large acreages.

A full understanding of the relationships between race, occupation, and landownership would require detailed comparisons with national occupational data. Instead, we will report only a few observations. Among Asian-Americans the occupation of farmer predominates whereas blacks and Hispanics are relatively unlikely to report farming as their occupation. As one might expect from common stereotypes, Hispanic farmland owners are likely to be employed as farm laborers. As noted above, for the population as a whole farmland ownership is spread among the various occupational strata, but for Hispanics and Native Americans it is somewhat more concentrated among managers and administrators. Nevertheless, black operatives and Hispanic nonfarm laborers have achieved relatively high levels of farmland ownership. Black retirees are also disproportionately likely to own farmland, as are black and Native American housewives.

There are many different possible motivations for the ownership of farmland; some persons want to store or accumulate wealth, while others wish to enjoy the amenities of rural residence. But surely one of the main motivations for the ownership of farmland is the derivation of income. The LOS did inquire about the net farm income received by farmland owners. As Table 5 indicates, in addition to farmers and farm laborers, only lawyers and judges, clerical persons, and housewives were highly likely to receive farm income. However, with the exception of real estate agents, more than 40 percent of the members of each occupational group received farm income. Other than farmers and farm laborers, the highest median amounts of farm income were received by housewives, retired persons, and lawyers and judges, but all nonfarm occupations (except physicians and dentists) received median farm incomes between 1,000 and 2,000 dollars.

TABLE 5.—FREQUENCY AND AMOUNT OF FARM INCOME, BY OCCUPATION

	Receive farm income (percent)	Median dollars [1]
Physicians and dentists	48.7	$644
Lawyers and judges	67.8	1834
Other professional	50.4	1040
Managers and administrators	54.9	1266
Real estate agents	27.8	1312
Other Sales	42.9	1637
Clericals	65.3	1659
Crafts	50.7	1019
Operatives	51.9	1312
Laborers except farm	45.4	1032
Farmers and farm managers	96.3	4288
Farm laborers	82.8	4715
Services	41.4	1555
Retired	49.7	1908
Housewives	61.3	1989

[1] Median interpolated from categorical data including only recipients of farm income.

In contrast to the receipt of farm income, a particular concern in the literature with regard to occupation is the degree to which some groups use farm operations to offset income earned from other sources—tax loss farming. Since returns to investment in farming tend to be low, income invested in farmland and equipment can be sheltered from income tax and taxed at a lower rate as capital gains. To explore this aspect of farmland ownership, we examined the cross-tabulation of net farm income and household nonfarm income for each of the occupational groups to see which groups were likely to report household incomes greater than $25,000 and negative net farm incomes. Physicians and dentists plus lawyers and judges were the two groups most likely to appear to be farming in order to shelter income (11.5 percent and 7.6 percent, respectively). Other professionals, managers and administrators, realtors, and other salespersons were also disproportionately likely to fall into these ranges but none of these occupations included more than 5 percent of the group. Thus, the LOS data would indicate that, although persons from many different occupations appear to be engaged in tax loss farming, such persons constitute a very small percentage of farmland owners.

CONCLUSION

In this chapter and our previous publications, we have outlined some of the social dimensions of farmland ownership. Yet as we said in the introduction, much work remains to be done. Part of the work needs to explore the social dimensions in more detail. For example, we know very little about absentee owners of farmland or about nonoperator nonlandlords. In both these cases, we need surveys to measure individuals' motivations for owning the farmland.

In addition to more detailed information about the characteristics of farmland owners, we also need longitudinal studies to show how the structure of farmland ownership is changing over time. The most recent study of farmland ownership before the 1978 LOS was a survey in 1946; differences between the two studies make it somewhat difficult to compare the results (see Gilbert and Harris, 1984). Nevertheless, the 1978 LOS could serve as a benchmark for studies in the remainder of this decade. Hopefully we will not have to wait another 32 years for the topic to receive the attention it deserves.

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AMERICA'S FARM POPULATION: HISTORICAL CHANGES AND RECENT TRENDS

By A. Wayne Lacy and Donald W. Bogie[*]

In 1790 when the first census of the United States was conducted, the country was basically a Nation of farmers. At least 96 percent of the total population was rural and most persons lived on individual farms. Before 1920, the population living on farms was not kept separately from those of small towns and villages. Even as late as 1860, the rural poulation, including towns of less than 2,500 was over 80 percent of the total population. Farming was still the backbone occupation of the Nation. No one could have even imagined the changes that would take place over the next 125 years, that would result in today's farm population comprising less than 3 percent of the Nation's total.

As the Nation grew, the farm population grew also, for many years. But the bulk of the growth occurred in urban areas and the relative share of the farm population declined steadily with the exception of a few years, mostly years of depression. In 1920, the Census revealed that a majority (51 percent) of the population lived in urban areas and only 30 percent lived on farms, with the rest classified as "rural nonfarm". Even in the earlier years as the Nation industrialized, most people who left farming did so because it did not pay as well as other nonfarming occupations [9, pp. 1–19], [2].

In 1880, the first year for which data are available for the farm as opposed to rural population, the total farm population of the U.S. was 21,973,000 representing 44 percent of the total population. By the turn of the century, the figure had increased to 29,875,000 but represented a drop to 42 percent of the total population.

The U.S. farm population peaked at 32,530,000 in 1916, declined, then rose somewhat during the Great Depression of the 1930's before resuming its downward trend. Since 1933, the farm population has declined in every year except 1946 and 1947, the post World War II adjustment of returning servicemen, and in 1955 after the Korean War.

Data regarding the farm population since 1920, its relative share of the total population, and decennial changes are presented in Table 1. From its estimated peak in 1916, the farm population declined over half a million by 1920 to 31,974,000. The only census to census increase in farm population since then came in the depression decade of the 1930's, when it increased by one-tenth of 1 percent or 18,000. Despite this small increase and a low overall growth of population, the share of total population declined from 25 percent to 23 percent. Along with the growth of mechanization, a large farm population surplus was created [2].

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TABLE 1.—TOTAL AND FARM POPULATION, UNITED STATES SINCE 1920

Year	Total U.S. population (1,000's)	Farm population (1,000's)	Farm population as percent of total	Percent change in total population	Percent change in farm population
Previous farm definition:					
1920	105,711	31,974	30.2	———	———
1930	122,775	30,529	24.9	16.1	−4.5
1940	131,669	30,547	23.2	7.2	0.1
1950	150,697	23,048	15.3	14.5	−24.5
1960	179,323	15,635	8.7	19.0	−32.2
1970	203,235	9,712	4.8	13.3	−37.9
1980	221,672	7,241	3.3	9.1	−25.4
1983	233,206	7,029	3.0	5.2	−2.9
Current farm definition:					
1978	217,771	6,501	3.0	———	———
1980	221,672	6,051	2.7	———	———
1983	233,206	5,787	2.5	———	———

Notes: Data from 1920 to 1950 represent conterminous U.S. only.
In column 1, 1920 to 1970 data are census counts, while 1980 and 1983 are estimates.
In column 2, data for 1960 and later are five quarter averages centered on April.

Prior to 1960, no specific criteria of dollar production value or acreages were required to be classified as a part of the farm population. Beginning in 1960, the farm population applied to rural persons living on 10 acres or more, and producing and selling $50 or more in agricultural products. Persons living on less than 10 acres were included if their sales were $250 or more. This is the "previous definition" of the farm population. The "current definition" of farm population includes all rural residents living on places that had or normally would have had agricultural product sales of $1,000 or more for the reporting year.

Source: U.S. Bureau of the Census, jointly with U.S. Department of Agriculture, Current Population Reports, Series P-27, Farm Population of the United States: 1983, U.S. Government Printing Office, Washington, D.C. Table A.

Following Table 1 and using the previous farm definition, the dramatic decline in the farm population that began in earnest in the 1940's and accelerated in the 1950's, continued to accelerate into the 1960's. The farm population declined by 7.4 million in the 1950's, (−32.2 percent) and by 5.9 million in the 1960's (−38 percent) before the rate of decrease began to decline in the 1970's. Even so, the farm population in this decade fell by 2.4 million to 7.2 million, a decline of 25 percent. Use of the current farm definition reduces the figure by almost another million to about 6.1 million. This latter figure reduces the farm population to only 3 percent of the total population (3.3 percent by the previous definition).

The decline has continued into the 1980's. In 1983, the latest official Commerce Department data [16] indicated a farm population of just under 5.8 million, 3 percent of the total population. Preliminary estimates for 1984 and 1985 indicate about 5.7 million in 1984 and 5.3 million in 1985. The extremely sharp drop indicated in the preliminary estimate for 1985, approximately a 7 percent decrease in one year, have been attributed to hard economic times in recent years.[1]

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[1] However, the year to year changes are subject to statistical aberration and some changes in sampling methodology. As a consequence, some experts have questioned the accuracy of year to year comparisons [20]. Discrepancies exist between the farm population totals reported in the Current Population Reports [16], and those appearing in the decennial census for 1960 and later. At least some of the variation is accounted for through differences in the manner in which the data are collected and estimated. The census data, furthermore, trace to a single day total (on

Continued

From 1940 to 1950, the farm population decreased by over 7 million or 25 percent as the nation's population rose by almost 19 million. The farm share dropped to 15 percent. The movement away from the farm has continued since that time, even though the reserve of potential movers has dropped substantially during the past few decades. This decline has continued even though the recent past has seen some reversal of the trend from rural to urban and metropolitan areas [3] [4] [8] [10] [11] [12].

A striking feature of change in the farm population is its racial composition (Table 2). In 1920, 49 percent of all blacks lived on farms and constituted approximately 16 percent of the farm population. Since then, the rate of decrease of blacks on farms has outstripped that of whites considerably. The traditionally low economic status of blacks on farms made employment elsewhere much more attractive. In many cases, the mechanization of agriculture made movement from the farm a necessity for survival. The black farm population decreased modestly until after the Depression and accelerated rapidly afterward. In the four decades from 1940 to 1980, the black farm population fell by 30 percent in the forties, 53 percent in the fifties, 43 percent in the sixties, and 65 percent in the seventies. In the first three years of the eighties, it fell by another 27 percent. Utilizing the previous farm definition, black farm population stood at only 218,000 in 1983 or just 0.8 percent of the black population. This accounted for only 3 percent of the total farm population. Using the current definition, only 162,000 blacks were counted, representing only 0.6 percent of the black population and only 3 percent of the total farm population. The data for whites follow closely the general pattern described for the total farm population. This is the result of the relative size of the white farm population vis-a-vis that for blacks.

TABLE 2.—BLACK FARM POPULATION OF U.S.

Year	Total population (1000's)	Farm population (1000's)	Percent of total black population	Percent change in farm population from preceding count
Previous Farm Definition:				
1920	10,463	5,100	48.7	——
1930	11,891	4,681	39.4	−8.2
1940	12,866	4,502	35.0	−3.8
1950	15,042	3,167	21.1	−29.7
1960	18,872	1,482	7.9	−53.2
1970	23,972	849	3.5	−42.7
1980	25,502	299	1.2	−64.8
1983	27,208	218	0.8	−27.1
Current farm definition:				
1980	25,502	242	0.9	——
1983	27,208	162	0.6	——

Notes: Data are based on five quarter averages centered on April for 1970 and later years. Those for 1960 and earlier years are derived from census reports.

Data for 1920 to 1950 for conterminous U.S. only.

Source: Same as Table 1.

April 1 at the beginning of each new decade), while CPR data represent five quarter averages that are April centered. In addition, unmarried persons attending school away from home (e.g., college students) are not enumerated as residents of the parent's domicile in the census counts, but are included in the CPR estimates [2, pp. 7–13]. For our purposes, the most important aspect of farm demographics is the trends patterns they are setting. For these purposes, the datasets portray basically the same results.

Data concerning the farm population for states and regions are presented in Table 3. These data were taken directly from the last three censuses. Hence, the tabulations reported for the separate states and regions do not add to the U.S. totals shown in Table 1, which are based on farm survey estimates. Although state data based on both estimates and census counts are available for 1960 and 1970, such is not the case for 1980 where only the census counts are available. For purposes of providing comparable data, therefore, official census counts are utilized in Table 3. Whichever source is used, however, the relative sizes of the farm population and relative changes should be roughly equivalent.

TABLE 3.—U.S. FARM POPULATION BY STATE AND REGION: 1960, 1970, 1980

Division/State	1960		1970		1980		Percent change in farm population		
	Farm population	Percent of total population in area or state	Farm population	Percent of total population in area or state	Farm population	Percent of total population in area or state	1960–70	1970–80	1960–80
United States	13,444,898	7.5	8,292,150	4.1	5,617,903	2.5	−38.3	−32.3	−58.2
Northeast	912,423	2.0	542,807	1.1	357,295	.7	−40.5	−34.2	−60.8
New England	180,047	1.7	94,478	.8	57,019	.5	−47.5	−39.6	−68.3
Maine	48,152	5.0	22,840	2.3	13,963	1.2	−52.6	−38.9	−71.0
New Hampshire	18,634	3.1	9,073	1.2	6,640	.7	−51.3	−26.8	−64.4
Vermont	48,845	12.5	26,427	5.9	18,079	3.5	−45.9	−31.6	−63.0
Mass.	35,946	.7	18,831	.3	9,839	.2	−47.6	−47.8	−72.6
Rhode Island	3,956	.5	2,359	.2	1,115	.1	−40.4	−52.7	−71.8
Connecticut	24,514	1.0	14,948	.5	7,383	.2	−39.0	−50.6	−69.9
Middle Atlantic	732,376	2.1	448,329	1.2	300,276	.8	−38.8	−33.0	−59.0
New York	324,746	1.9	190,659	1.0	123,109	.7	−41.3	−35.4	−62.1
New Jersey	51,357	.8	32,432	.5	18,984	.3	−36.8	−41.5	−63.0
Pennsylvania	356,273	3.1	225,238	1.9	158,183	1.3	−36.8	−29.8	−55.6
North Central	5,392,571	10.4	3,984,116	7.0	2,878,280	4.9	−26.1	−27.8	−46.6
East North Central	2,562,633	7.1	1,866,997	4.6	1,321,987	3.2	−27.1	−29.2	−48.4
Ohio	519,513	5.4	370,946	3.5	271,542	2.5	−28.6	−26.8	−47.7
Indiana	485,474	10.4	374,590	7.2	276,154	5.0	−22.8	−26.3	−43.1
Illinois	562,845	5.6	428,726	3.9	313,987	2.7	−23.8	−26.8	−44.2
Michigan	440,937	5.6	277,529	3.1	177,591	1.9	−37.0	−36.0	−59.7
Wisconsin	553,864	14.0	415,206	9.4	282,722	6.0	−25.0	−31.9	−49.0
West North Central	2,829,938	18.4	2,117,119	13.0	1,556,293	9.1	−25.2	−26.5	−45.0
Minnesota	587,548	17.2	454,516	12.0	315,400	7.7	−22.6	−30.6	−46.3
Iowa	662,239	24.0	512,371	18.1	391,070	13.4	−22.6	−23.7	−40.9
Missouri	540,798	12.5	359,319	7.7	282,074	5.7	−33.6	−21.5	−47.8
No. Dakota	204,398	32.3	152,261	24.6	103,881	15.9	−25.5	−31.8	−49.2
So. Dakota	205,688	30.2	162,730	24.5	112,854	16.3	−20.9	−30.6	−45.1
Nebraska	308,759	21.9	237,978	12.0	178,113	11.3	−23.0	−25.2	−42.3
Kansas	320,508	14.7	237,944	10.6	172,901	7.3	−25.8	−27.3	−46.1
South	5,920,797	10.8	2,971,433	4.7	1,776,962	2.4	−49.8	−40.2	−70.0
South Atlantic	2,322,322	8.9	1,053,999	3.4	618,825	1.7	−54.6	−41.3	−73.4
Delaware	21,821	4.9	11,360	2.1	10,246	1.7	−48.0	−9.8	−53.0
Maryland	110,157	3.6	62,385	1.6	44,934	1.1	−43.4	−28.0	−59.2

Virginia	397,176	10.0	192,784	4.1	113,115	2.1	−51.2	−41.3	−71.5
W. Virginia	120,938	6.5	57,445	3.3	28,730	1.5	−52.5	−50.0	−76.2
No. Carolina	808,379	17.7	374,692	7.4	188,437	3.2	−53.6	−49.7	−76.7
So. Carolina	351,154	14.7	111,528	4.3	53,595	1.7	−68.2	−51.9	−84.7
Georgia	407,278	10.3	171,544	3.7	121,089	2.2	−57.9	−29.4	−70.3
Florida	105,419	2.1	72,261	1.1	58,679	.6	−31.5	−18.8	−44.3
East South Central	2,080,261	17.3	1,068,477	8.3	592,777	4.0	−48.6	−44.5	−71.5
Kentucky	547,823	18.0	381,696	11.9	244,589	6.7	−30.3	−36.0	−55.4
Tennessee	586,744	16.4	316,817	8.1	175,673	3.8	−46.0	−44.6	−70.1
Alabama	402,855	12.3	159,641	4.6	87,757	2.3	−60.4	−45.0	−78.2
Mississippi	542,839	24.9	210,323	9.5	84,758	3.4	−61.2	−59.7	−84.4
West South Central	1,518,214	9.0	848,957	4.4	565,360	2.4	−44.1	−33.4	−62.8
Arkansas	331,645	18.6	173,677	9.0	107,648	4.7	−47.6	−38.0	−67.5
Louisiana	233,138	7.2	113,757	3.1	58,945	1.4	−51.2	−48.2	−74.7
Oklahoma	258,949	11.1	175,349	6.9	129,874	4.3	−32.3	−26.0	−49.8
Texas	694,482	7.2	386,174	3.4	268,893	1.9	−44.4	−30.4	−61.3
West	1,219,107	4.3	793,794	2.3	605,366	1.4	−34.9	−23.7	−50.3
Mountain	570,189	8.3	387,862	4.7	263,852	2.3	−32.0	−32.0	−53.7
Montana	105,598	15.6	82,129	11.8	58,396	7.4	−22.2	−28.9	−44.7
Idaho	132,782	19.9	93,708	13.2	69,129	7.3	−29.4	−26.2	−47.9
Wyoming	43,046	13.0	31,263	9.4	19,407	4.1	−27.4	−38.0	−54.9
Colorado	127,561	7.3	85,989	3.9	59,152	2.0	−32.6	−31.2	−53.6
N. Mexico	58,264	6.1	37,487	3.7	20,087	1.5	−35.7	−46.4	−65.5
Arizona	49,421	3.8	23,273	1.3	13,770	.5	−52.9	−40.8	−72.1
Utah	43,411	4.9	26,297	2.5	18,372	1.3	−39.4	−30.1	−57.7
Nevada	10,106	3.5	7,716	1.6	5,539	.7	−23.6	−28.2	−45.2
Pacific	648,918	3.1	405,932	1.5	341,514	1.1	−37.4	−15.9	−47.4
Washington	163,242	5.7	111,826	3.3	81,664	2.0	−31.5	−27.0	−50.0
Oregon	138,303	7.8	102,185	4.9	78,045	3.0	−26.1	−23.6	−43.6
California	334,266	2.1	184,875	.9	176,460	.7	−44.7	−4.6	−47.2
Alaska	2,171	1.0	1,113	.4	822	.2	−48.7	−26.1	−62.1
Hawaii	10,936	1.7	5,933	.8	4,523	.5	−45.7	−23.8	−58.6

Source: U.S. Census of Population, 1960, 1970, 1980 [13].

The States in 1960 with the highest proportions of the population engaged in farming were North Dakota (32.3 percent), South Dakota (30.2), Mississippi (24.9), Iowa (24.0), Nebraska (21.9), Idaho (19.9), Arkansas (18.6), Kentucky (18.0), North Carolina (17.7), and Minnesota (17.2). In these States farming tended to represent a more substantial share of the economic base than for most of the others.

The States having the smallest farm populations were generally those of limited population size and with a low percentage of persons living on farms. Very low proportions were also the case in Florida and California (2.1 percent each) and Hawaii (1.7 percent), all states that make a large contribution to farm output.

The 10 years between 1960 and 1970 saw a considerable shifting of the distribution of the farm population. The Midwest, also referred to as the North Central States, with larger farms and a greater degree of mechanization than that found elsewhere, experienced the smallest proportion decline in farm population (−26.1 percent) of all regions. During the same period, the Northeast lost 40.5 percent, the West 34.9, and the South a huge 49.8 percent. The largest percentage losses were concentrated in the South. North Carolina, which had the largest farm population in 1960 (808,379) dropped to seventh on the list in 1970 losing 53.6 percent of its farm population during the decade. Mississippi dropped from the top eleven in farm residents, losing 61.2 percent. In addition to Mississippi and North Carolina, other large percentage declines in farm population occurred in South Carolina (−68.2 percent), Alabama (−60.4), Georgia (−57.9), Maine (−52.6), Arizona (−52.9), West Virginia (−52.5), New Hampshire (−51.3), and Virginia and Louisiana (−51.2 percent each). The States with the smallest percentage decline in the rural farm sector during the 1960 to 1970 period were South Dakota (−20.9 percent), Montana (−22.2), Iowa and Minnesota (−22.6 each), and Indiana (−22.8).

The pattern of change that characterized the 1960's continued through the 1970's. The States in the North Central region had smaller declines in farm population (−27.7 percent) than the Northeast (−34.2) and South (−40.2). The West, however, experienced the lowest percentage decline of all at −23.7 percent. The top four States in farm population size were in the Midwest, retaining the same positions as ten years earlier. The next three were also located in the Midwest and rose in relative rank as they experienced smaller percentage declines in farm population than those ranked higher in 1970. The States with the largest numerical totals in 1980 were Iowa (391,070), Minnesota (315,400), Illinois (313,978), Wisconsin (282,722), Missouri (282,893), Indiana (276,154), Ohio (271,542), Texas (268,893), Kentucky (244,589), North Carolina (188,437), and Nebraska (178,113). These 11 States held 53.6 percent of the Nation's total farm population.

Thus, the farm population has become increasingly concentrated in a relatively small number of States in recent years. Nebraska entered the top 11 States in rural farm totals during the 1970's, while Tennessee slipped from that group falling three places to fourteenth. The top 11 States in numerical totals were very closely followed by Michigan, California, Tennessee, and Kansas, all with over 170,000 in farm population.

REGIONAL DISTRIBUTION OF THE FARM POPULATION

The data concerning regional shares of the U.S. farm population are presented in Table 4. This table shows how the farm population has been distributed across various regions of the country over the years, and illustrates the changes that have occurred in relative rank. Several significant trends emerge from the data.

TABLE 4.—REGIONAL PERCENTAGE SHARES OF TOTAL U.S. FARM POPULATION

Region	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
Northeast	12.9	11.3	9.0	7.9	7.5	7.9	7.8	6.8	6.5	6.4
New England	3.5	3.0	2.4	2.0	1.9	2.0	1.7	1.3	1.1	1.0
Middle Atlantic	9.4	8.3	6.7	6.0	5.6	5.9	6.0	5.4	5.4	5.3
North Central	40.3	37.1	33.4	31.8	31.4	30.6	32.3	40.1	48.0	51.2
East North Central	20.8	18.9	16.4	15.5	14.7	15.2	16.1	19.1	22.5	23.5
West North Central	19.6	18.2	17.0	16.3	16.6	15.4	16.2	21.0	25.5	27.7
South	43.3	47.6	51.9	53.4	53.6	53.7	51.6	44.0	35.8	31.6
South Atlantic	17.0	17.6	19.4	20.3	19.4	19.8	20.1	17.3	12.7	11.0
East South Central	15.5	16.3	16.5	16.4	16.7	17.3	17.6	15.5	12.9	10.6
West South Central	10.8	13.7	16.1	16.6	17.5	16.6	13.9	11.3	10.3	10.0
West	3.5	4.0	5.6	6.9	7.5	7.8	8.4	9.1	9.6	10.8
Mountain	1.3	1.7	2.9	3.7	3.7	3.7	3.7	4.2	4.7	4.7
Pacific	2.2	2.3	2.8	3.2	3.8	4.2	4.6	4.8	4.9	6.1

Source: Calculated from data in Historical Statistics of the United States, [17] and U.S. Census of Population, 1960, 1970, and 1980.[13]

Traditionally, the South as been the region possessing the largest share of the country's farm population. In 1890, the South contained 43.3 percent of the total number of persons living on farms. The proportion rose to greater than one-half by 1910 and peaked at 53.7 percent around 1940. The South's share of the Nation's farm population has declined sharply over the past 40 years, however, to only 31.6 percent in 1980. Each of the South's three subregions have followed the same pattern, although the relative share of the West South Central sector, vis-a-vis the other two subregions peaked at an earlier date.

From 1960 to 1980, the South's farm population dropped by 70.0 percent, or over 4.1 million persons. The States with the largest percentage decline were South Carolina (−84.7 percent), Mississippi (−84.4), Alabama (−78.2), North Carolina (−76.7), and West Virginia (−76.2). The States with the smallest percentage decline on the other hand, were Florida (−44.3 percent), Oklahoma (−49.8), Delaware (−53.0), Kentucky (−55.4), and Maryland (−59.2).

Replacing the South as the area with the largest share of the U.S. farm population was the North Central region. Despite a decline in farm residents amounting to 46.6 percent from 1960 to 1980, this area's share of the U.S. total grew from 40.1 to 51.2 percent during the period.

Historically, the trends occurring in the North Central States in regard to the overall regional share of the U.S. farm population is the reverse of that of the South. The North central region exhibits a declining share of the farm population from 1890 through 1940, from 40.3 to 30.6 percent, but a rising share since then leading to the current level of 51.2 percent. The States showing the largest percentage declines in farm population over the 1960 to 1980 period were Michigan (−59.7 percent), and North Dakota (−49.2). The

States with the least percentage declines were Iowa (−40.9 percent), Minnesota (−41.0), Nebraska (−42.3), and Indiana (−43.1).

Following the South in relative decline was the Northeast, which lost just over three-fifths (60.8 percent) of its farm population from 1960 to 1980. The historical pattern concerning this section's relative share of U.S. farm residents is quite consistent, declining every decade except that of the depressed thirties. As a result of these losses, this region now has the smallest share of the Nation's farm population. From 1960 to 1980, states within the region with the largest proportional losses were Massachusetts (−72.6 percent), Rhode Island (−71.8), Maine (−71.0) and Connecticut (−70.0). The States with the smallest relative declines were Pennsylvania (−55.6 percent), New York (−62.1), and New Jersey and Vermont (−63.0 each).

The West has shown consistent growth in its relative share of the U.S. farm population, with the percentage increasing every decade since 1890. Between 1940 and 1950, this region passed the Northeast in percent share. From 1960 to 1980, the West's relative share of the total farm population rose from 9.1 to 10.8 percent. During that same period, however, farm residents declined by 50.3 percent or over 600,000. Western states with the largest percentage declines were Arizona (−72.1 percent), New Mexico (−65.5), Alaska (−62.1), and Hawaii (−58.6). The smallest relative declines were registered in Oregon (−43.6 percent), Montana (−44.7), Nevada (−45.2), and California (−47.2).

COMPONENTS OF FARM POPULATION CHANGE

For each decade since the 1920's, when data first became available, net losses as a result of migration and reclassification from farm to nonfarm have been the prevailing pattern (Table 5). Although it is not known for certain, it is generally believed that losses resulting from out-migration of the farm population are greater than those brought about by reclassification of residence. With recent increases in the availability of jobs in rural areas and small towns, however, it may be that more farmers than formerly are ceasing to farm altogether but still retaining residence at the same locale [1, p. 5]. This observation holds not only for the U.S. farm population generally, but for each of the four geographic regions of the country as well. At the same time, average annual birth rates have outpaced death rates to such an extent (again for the U.S. and each region) that a substantial natural increase in farm residents most frequently has been the result. The excess of births over deaths through the years, however, has not been nearly large enough to offset net migration/reclassification losses. During the 1960's, for example, the decade of highest net out-migration rates to date, an annual average of nearly 50 more persons per 1,000 population left the U.S. farm population than became a part of it through excess births. In numerical terms, the natural increase during this period amounted to 102,000 while the net migration/reclassification loss was nearly seven times greater at 694,000 [2].

TABLE 5.—COMPONENTS OF FARM POPULATION CHANGE FOR THE UNITED STATES, BY REGIONS, 1920 TO 1977

Area	Average annual rate per 1,000 population [1]			
	Births	Deaths	Natural increase	Migration [2]
A. 1920–1930:				
United States	25.5	10.0	15.5	–20.2
Northeast	17.2	11.9	5.3	–15.6
North Central	22.1	9.2	12.9	–18.7
South	29.0	10.0	19.0	–23.1
West	23.6	10.9	12.7	–9.1
B. 1930–1940:				
United States	22.2	10.2	12.0	–11.9
Northeast	14.9	11.8	3.1	1.6
North Central	18.8	9.6	9.2	–11.6
South	25.6	10.3	15.3	–15.1
West	19.5	10.5	9.0	–5.2
C. 1940–1950:				
United States	26.4	10.4	16.0	–46.7
Northeast	24.7	10.9	13.8	–46.3
North Central	23.7	10.0	13.7	–38.4
South	28.3	10.6	17.7	–53.0
West	25.6	10.0	15.6	–38.3
D. 1950–1960:				
United States	22.9	8.6	14.3	–53.1
Northeast	21.6	9.7	11.9	–59.8
North Central	21.8	8.8	13.0	–36.6
South	24.0	8.6	15.4	–67.0
West	22.0	7.1	14.9	–38.1
E. 1960–1970:				
United States	17.9	9.7	8.2	–56.1
Northeast	18.5	11.1	7.4	–54.7
North Central	17.4	9.6	7.8	–37.9
South	18.2	9.7	8.5	–74.2
West	18.6	8.8	9.8	–56.5
F. 1970–1977:				
United States	13.0	9.8	3.2	–32.5
Northeast	15.0	13.3	1.7	–35.0
North Central	11.8	9.0	2.8	–25.0
South	13.6	10.4	3.2	–51.2
West	15.0	9.6	5.4	–3.2

[1] Population estimates at mid-interval were used at the base for calculating average annual rates. For each decade between 1920 and 1970, estimates were drawn from Banks and Beale, 1973, while those for the 1970 to 1977 period were derived through mathematical interpolation.

[2] Also includes reclassification of residence as a result of cessation of farming activity or failure to otherwise meet the criteria for inclusion in the farm category.

Note: Rates are based on varying definitions of the farm population. Those reported for 1960 to 1977, for example, reflect the definition developed for the 1960 Census. Those for earlier years are based on the specific criteria in effect at the time of each census.

Sources: Vera J. Banks and Calvin L. Beale, Farm Population Estimates, 1910–1970, U.S. Department of Agriculture, Statistical Bulletin No. 523, July 1973, pp. 32–36; and Vera J. Banks, Farm Population Estimates for 1977, U.S. Department of Agriculture, Rural Development Research Report No. 4, September 1978, p. 5.

Of the various components of change, mortality rates have remained more stable than either birth or migration rates. While an average annual death rate of 10.0 persons per 1,000 population was registered for the U.S. during the 1920's, the average rate during the 1970's was only slightly lower at 9.8. The only significant drop in mortality rates occurred during the 1950's, and was probably accounted for in part by the more youthful population that was generated by the elevated fertility levels of the late 1940's. Perhaps indicative of an older population, mortality rates in the Northeast are now generally higher than those in the other three regions.

Much greater fluctuation has occurred in relation to fertility rates among farm residents. While relatively high in the 1920's, they dropped precipitously during the depression years of the 1930's. During the 1940's, birth rates surged to their highest levels, but steady declines have been observed in the three decades since. The South has generally been characterized by the highest average annual birth rates, with the Northeast and North Central regions the lowest.

A relatively steady death rate, in combination with a declining birth rate, have produced a much lower rate of natural increase for the farm population today than in years past. The excess of births over deaths amounted to an annual average of nearly 16 persons per 1,000 population during the 1920's. During the 1970's, however, the rate of natural increase fell to only 3.2 and birth rates for the farm population moved closer to those of the urban segment of the Nation. Thus, high rates of natural increase, traditionally responsible for offsetting a significant portion of the net migration loss, now have limited impact in moderating farm population declines.

The excess out-migration of the farm population (in combination with reclassification) has been large and relatively sustained, at least through the period for which such data are available. While net migration losses peaked during the 1940 to 1960 era, fairly high rates of loss also occurred during the 1920's and later (although to a lesser degree) during the 1970's. The only exception is the lower tendency toward outward movement that marked the 1930's. During this period, the rate of natural increase for the U.S. and three of the four regions was sufficient enough to either outstrip migration gains (as in the Northeast) or to offset migration losses (in the South and West). This pattern led to a small net increase in the Nation's farm population for the period as a whole. During the early 1930's, when the impact of the depression was particularly severe, the U.S. and all four regions experienced periods during which more people returned to farms than left. This marked one of only two instances of reversal in migrant flow since data first became available in 1920. The only other example is the immediate post World War II period when vast numbers of persons were released from military service. The reversal was of extremely short duration, however, confined to 1945 for all areas except the Northeast [2, pp. 32-36].

While the general pattern has been one of out-migration, significant variations exist in the magnitude of outward movement according to region. The highest rates of net migration loss have occurred in the South, with generally lower rates in recent years prevailing in the North Central region and West. Indeed, the South reached an all-time high in the rate of net migration of loss (−74.2 per 1,000 annually) during the 1960's, outstripping the previously all-time high in the rate of net migration loss of the 1950's, by an annual average of 7.2 persons per 1,000 population.

The South has been dramatically affected by the mechanization of agriculture, in combination with the large-scale movement of the black population from the region. Blacks are no longer leaving the South in larger numbers than they are entering, but many persons, black and white, still continue to move from southern farms or are ceasing to farm altogether [15, pp. 128–129]. The structure of farming in the South probably explains much of the continuing high rate of outward movement. Farms are not as large in many sections of the South as those in other regions of the country, with many characterized by farming activity that is only marginal. Both of these factors are relatively conducive to either selling-out and moving away or remaining on farms but ceasing to produce.

The continued high out-migration of farm residents, along with whatever reclassification is occurring, becomes even more significant when one considers that the population of potential out-migrants has declined substantially over the years. Out-migration rates will necessarily moderate in the years ahead, however, as the base of possible movers edges closer to the point of depletion. Although published data are difficult to come by beyond the 1970 to 77 period, out-migration in recent years has undoubtedly slowed. Between 1982 and 1983, for example, a gain of 3 percent was registered in the farm population, the first such increase for any one year since 1978 [16, p. 1]. It is possible that this could be attributed to statistical sampling error, however.

PUSH-PULL FACTORS PROPEL MOVEMENT

Why the large-scale exodus of the rural farm population over the years? A combination of both "push" and "pull" factors contribute to the movement. The push factors trace primarily to changes in the structure of American agriculture, (widespread mechanization in particular) and to the vagaries of making a living through farming. Chiefly among the pull factors, on the other hand, has been a rapidly expanding U.S. economy. Since the turn of the century, millions of new jobs have been created in the urban sector. These jobs have offered regular work, improved incomes, stability of wages, and built-in hedges against inflation in the form of regular salary increments.

Farm youth, in particular, have been characterized by high rates of movement to towns and cities. With firsthand knowledge of both the costs and benefits associated with farming, they have left farm life behind with the hope of realizing more secure and satisfying futures in other occupational pursuits. Few rural youngsters in today's context indicate a desire to enter farming, opting instead for a wide-range of professional and technical jobs associated with the urban work place. In a recent large-scale study of Kentucky high school seniors conducted by one of the authors, it was found that only 6 percent of the males expected to enter farming. This was the smallest percentage by far for any of the major occupational categories utilized in the research [6].

Others found that neither their skills or their labor were needed any longer as a result of changes in the structure of American agriculture itself. With the large-scale mechanization of farming enterprises during earlier decades of this century, thousands of farm laborers were rather suddenly and permanently released from the land. Perhaps this is nowhere more vividly illustrated than in the case of black sharecroppers, who experienced first hand the effects of mechanization on the cotton industry. They began to leave the rural South in droves during the World War I era, continuing to move in large numbers in most years thereafter [5, pp. 354–355].

Particularly noteworthy is the out-migration of those who can no longer survive the economic realities of farming. Caught in a squeeze between stationary or declining farm prices on the one hand and rising production costs on the other, many rural residents have made the decision to give up farming altogether. This pattern is particularly true of small, marginal operators but applies to larger ones as well.

CHARACTERISTICS OF THE FARM POPULATION

In 92 percent of the families there was a married couple, in 3 percent a male head with no wife present, and in 5 percent a female head with no husband present. Forty-two percent were two-person families, 50 percent were three to five person families while 8 percent were families consisting of six or more persons [19].

The marital status of the farm population today reflects that of the general population in earlier years. In 1983, a higher percentage of farm residents were married and living with their spouses than members of the total population, while a smaller proportion were either separated or divorced. Sixty-nine percent of the women and 68 percent of the men aged 15 years old and over and residing on farms were married versus 54 and 59 percent respectively for the general population.

According to the 1980 Census, the proportion of persons known to have been divorced is far smaller for farm residents than for the population as a whole. For whites residing on farms, only 12 percent of those ever married between the ages of 15 and 54 had recorded a divorce. This compares to 23 percent for whites overall. Of black farm persons ever married, 14 percent had recorded a divorce, versus 26 percent for the black population generally [7, p. 164.].

Women residing on rural farm areas exhibit higher fertility levels than those residing elsewhere. For farm women aged 18 to 44 years in 1983, the average number of children ever born per 1,000 females in that age group was 1,724. For nonfarm women, the corresponding figure was 1,409. The expected births in a lifetime for women aged 18 to 34 on farms was 2,449 per 1,000 females versus 2,073 for nonfarm women of that same age.

In 1983, the farm population was somewhat older than the population generally. The median age of persons living on farms was 35.7, but only 30.7 for the total population. Females residing on farms are slightly older than males (the median was 37.2 versus 34.0 in 1983), while the median age for farm operators in 1982 was 50.5 years [16].

In years past the farm population could be characterized as extremely youthful, but in recent decades there has been a heavy out-migration of young adults. In 1983, persons aged 20 to 34 years were under-represented on farms as compared to the proportion in that age group for the population as a whole. Data pertaining to the age structure of the farm population is presented in Table 6. In 1960, only 31 percent of the farm population was over 44 years of age, while in 1983 the percentage had risen to 39. In addition, the proportion under 19 years of age dropped significantly between 1960 and 1983, falling from 44 percent to only 31. Although the proportion of the farm population in the prime adult work years (i.e., 20 to 44) increased during that period from 26 percent to 31 percent of the farm population, there was still a significant outflow of young persons from the Nation's farms as the baby boom generation matured.

TABLE 6.—AGE DISTRIBUTION OF THE FARM POPULATION 1960 AND 1983

Age group in years	Percent of total farm population	
	1960 [1]	1983 [2]
Less than 14	31.9	19.5
14 to 19	11.9	11.1
20 to 24	4.9	7.5
25 to 34	9.3	11.0
35 to 44	11.5	12.3
45 to 64	22.0	25.2
65 or more	8.5	13.4

[1] 1960 data uses previous farm definition
[2] 1983 data uses current farm definition

Source Statistical Abstract of the United States. [19]

The Nation's rural farm segment is the least mobile sector of the population. Between 1975 and 1980, 77 percent of all farm households retained the same residence, 13.5 percent moved to another location in the same county, 9 percent moved to a different county (about one-third of which was out of state), and only 0.3 percent moved abroad. Black-white differences in this respect were very small. For the urban dwellers, of the other hand, only 52 percent remained in the same residence, 26 made intra-county moves, 20 percent made inter-county changes (53 percent of which were out of state), and 2.3 percent moved abroad [7, p. 333].

A study by the National Opinion Research Center pooled data from 1972 through 1983 to provide an indication as to the political party affiliation of the farm population. The study divided farm residents into two categories: operators and laborers. In general, farm laborers tend to vote Democratic, according to the data, while farm operators are more likely to vote Republican (although by a lesser margin than laborers vote Democratic). In particular, it was found that 54 percent of farm laborers tended to be Democrats, 21 percent Independent, and 25 percent Republicans. For farm operators, 38 percent tended to be Democrats, 21 percent Independent, and 41 percent Republicans. The Republican vote, however, is probably more stable than that among Democrats, thus showing somewhat less tendency to cross party boundaries [7, p. 678].

SUMMARY

Major demographic changes have occurred in relation to the nation's farm population since the turn of the century. These changes are most dramatically seen in the declining number of persons living on farms and in the decreasing proportion of the total population that the category represents. The losses have generally been large, except for the depression years and immediately following World War II, and pervasive, extending to the entire U.S., to all regions, subregions, and states, and characteristic of both whites and blacks.

Farm population declines are nowhere more visible than in the Southern region of the country. Once possessing the greatest regional share of the U.S. farm population, the South has now fallen behind the North Central region in relative share. The major factor in the change in position is the 70 percent (4.1 million) drop in farm population in the South between 1960 and 1980. While other regions also have experienced precipitous declines in farm population, the rate of loss for the South has been greatly in excess of that in other areas.

Birth rates among farm residents have traditionally outpaced death rates by a considerable margin, resulting in a substantial natural increase. The excess of births over deaths generally has not been great enough, however, to counterbalance huge net migration losses. Such losses reached their highest levels during the 1950's and 1960's, and continued into the 1970's. The only periods of moderation in net migration losses, or actual reversals in the direction of migration flow, were the early years of the Depression and the immediate post World War II era.

Both push and pull factors help to account for the substantial out-migration of the farm population. The mechanization of American agriculture forced large numbers of individuals from the land, as has the economic exigencies of making a livelihood through farming. A rapidly expanding economy, on the other hand, leading to the creation of millions of attractive jobs in the urban setting, has served as a major pull factor in the establishment of new residences elsewhere.

Reproductive patterns for the farm segment have moved close to those of the general population. A higher percentage of farm residents are married than for the population as a whole, while a smaller proportion report that they have been divorced or are separated. The farm population is older than the U.S. population generally, reflecting the heavy out-migration of rural youth in earlier decades. It remains overwhelmingly white, and has become more so over the years. The farm population is less mobile than are Americans generally. Farm laborers are more likely to identify with the Democratic Party than the Republican while farm operators tend to be Republican.

What lies ahead? A continuation of current trends, although on a more moderate scale than in the past, is anticipated. The farm population will most likely decline further and average farm size increase as many smaller operations cease altogether and others are combined into larger units.

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THE PEOPLE OF RURAL AMERICA

By Conrad Taeuber*

Diversity is a key characteristic of Rural America. Rural people are to be found in all sections of the country. The term "rural" takes in the lone settler in the western part of the country as well as the person living just across the boundary of a metropolitan area who is waiting for "development" to take over the land—at a profit. It includes farmers who spend full time at the work associated with a farm, as well as the part-time farmer who gets the major share of his income from work that has nothing to do with farming.

Rural America includes the people living in the nearly 14,000 small towns and cities; the people whose homes are clustered about highway intersections or strung out along a rural highway; people living in villages where fishing, mining, or timber are the major source of support; and the well paid professional man or woman whose entire outlook is focused on the nearby city but who wants a place in the "country" because it is "good for the kids", because it provides respite from the pressures of the job in the city, because the householder or partner was raised in a "rural environment," or for other reasons.

The 1980 Census reported that the population of rural areas was nearly 60 million or 26.3 percent of the total population of the country. It had increased by 11 percent since 1970, growing at about the same rate as the urban population. The fact that the rate of growth over the 10 year period was the same as that of the total population is without precedent in American history. From the beginning of our history, there has been a strong movement of population from the rural to the urban areas. The 1910 Census was the last one which reported that more than half the national population was living in rural areas. By 1920 urban claimed the majority of the population, and each succeeding census reported that the percentage living in urban areas had increased. The trend was so clear that it came as a real surprise to people who watch such trends when early in the 1970's there appeared to be a reversal and rural areas as a whole were receiving migrants from the cities and with rising unemployment in many cities the movement from rural to urban areas had slowed down.

Eleven million of the nearly 60 million rural residents live in the 14,000 small towns, villages, and cities. Most of these small places have a population of less than 1,000 persons. Nearly 50 million live in the open country. That is, they live outside any incorporated place.

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A quick look at the work which employed heads of rural households were doing shows that agriculture with 1.3 million persons is outnumbered by manufacturing with 3.4 million and that construction, transportation and communication, retail trade, and professional and related services, involve about the same number of workers as agriculture. Some of the workers are part-time farmers as well. Although there were 1.3 million household heads reporting agriculture as their major occupation, there were 1.5 million who reported some income from farming. Only 10 percent of them reported that farming was their only source of income, a fourth of the total stated that income from farming exceeded their income from other sources, and two-thirds stated that the income from other sources was greater than the income from farming. Although agriculture and services to agriculture play a major role in many areas, the problems faced by most rural residents are not chiefly related to farming.

Recent Trends

Few observers of the population scene were prepared for the turnaround in the growth of the rural population in the 1970's. There was some talk of a rural renaissance, that there was a new trend and urban population would no longer be the chief gainer, at the expense of rural areas. The 1970's (and apparently the late 1960's) clearly were years in which the traditional net migration away from rural areas was reversed in many parts of the country. The turnaround was most notable in the Southern Appalachian coal fields and the Coastal peanut and tobacco growing area, the Coastal Cotton Belt, and the Rio Grande Valley. Elsewhere the evidence of a turnaround was much less clear and counties which continued to feel the loss of migrants are side side with counties that continued to gain population as they had before.

The growth of the rural population during the 1970's was not evenly distributed. The highest rates of growth were in the Mountain and the West South Central States, about 20 percent for the decade. Both of these Divisions had declining rural populations during the 1960's. The lowest rate of growth of the rural population was that in the West North Central region, 4.6 percent. This group of States reached its high point in the number of rural residents in 1920 and reported losses in every decade since then prior to 1970. The small increase in the 1970's failed to bring the rural population back to the 1960 level.

There are indications that there have again been declines in the first half of the 1980's. Increases in the New England, Middle Atlantic, and East North Central States were at a rate lower than that for the country as a whole. They were, however, a continuation of increases during the 1960's and 1970's. Nearly half the increase during the 1970's took place in the South, a region that had reported declining rural population since 1940.

There were 877 nonmetropolitan counties which reported a turnaround. That is, they had lost population between 1950 and 1960 and again between 1960 and 1970, but gained between 1970 and 1980. Three-fourths of those counties continued to grow in the early 1980's, though generally the rate of growth since 1980 was slower than that during the 1970's. There were 249 counties which reverted to the loss position after having reported some gains in the 1970's. They were joined by 196 counties which were losing population in the early 1980's after having grown between 1960 and 1980. These changes were partially offset by the 133 counties which lost population during the two decades before 1970 but gained in the early 1980's. A total of 225 counties which had losses in the 1950's, 1960's, and 1970's continue to loose population in the early 1980's. They were concentrated largely in the Middle West. They are primarily agricultural counties with relatively small numbers of residents. As the changing farm technology led to fewer but larger farm units and thus fewer farm operators, it also led to a reduction in the numbers of people engaged in services to the farm people. Many of these counties are relatively isolated from industrial developments and the members of the workforce cannot commute to a nearby city. Migration to areas with greater employment opportunities appears to be the only alternative for the adults young enough to undertake new lines of work in new surroundings.

Since 1980, metro areas are growing more rapidly than the nonmetro areas, thus reversing the pattern which prevailed in the 1970's. Both metro and nonmetro areas gained at a lower rate than they had in the 1970's. The difference in the growth rate was most pronounced in the South, where metro areas gained at the rate of 1.8 percent per year, while the nonmetro areas grew by only 1 percent per year. Metro and nonmetro grew at about the same rate since 1980 but these were less than the growth rates of the 1970's.

There are differences within the regions. There are 17 States in which the nonmetro population grew more rapidly than that in the metro areas, since 1980. Eleven of them are in a broad belt from Missouri and Wisconsin to Massachusetts. In five midwestern states, the nonmetro population has been declining since 1980. They are Illinois, Indiana, Iowa, Minnesota, and Ohio. Although much of the Nation's population growth since 1980 is concentrated in the South, eight of the 16 Southern States grew at rates below the national average since 1980. There are variations in the growth pattern within States. The pull which metro areas exert on the nonmetro population influences changes in the nonmetro areas. Those counties which lie near enough to a metro area to provide employment opportunities for commuters gained more rapidly than the more remote counties.

Any effort to account for the differences in the rates of change or the persistence of trends would need to take into account a host of factors: the declining manpower need in agriculture, decentralization of many industries, the exploitation of new energy sources, growth of retirement communities, the changing patterns of transportation and communication networks, and many more. It is clear than even though basic backgrounds may appear to be the same, differences in recent growth rates do occur. Nearness to a growing metropolitan center generally favors growth. A county which is essentially agricultural and started the decade with a small population is likely to come in with a loss. But there is no clear-cut generalization which would not have to be surrounded by numerous exceptions.

Cities, Towns, and Villages

In 1980, about one-fifth of the rural population lived in 13,764 places with populations of less than 2,500. Although there is a widespread belief that these small places are dying and disappearing, the Census statistics do not support that view. The 1980 Census reported that the number of places with fewer than 1,000 inhabitants had declined by about 2 percent, but the number which had between 1,000 and 2,500 increased by 7 percent. The population of the smaller villages increased by less than one-half of 1 percent between 1970 and 1980—the population of larger villages increased by 0.7 percent.

A study of a nationwide sample of villages reported that between 1970 and 1980 there was an increase in the total population of those places. But not all places reported an increase; one-third of these places lost population and 12 percent had losses during each 10 year period since 1950.

There were important differences in the rates of growth in the different parts of the country. Gains in population were much more frequent in the South than in the North. In the Midwest and Northeast, the story is more mixed. The Midwest had the smallest proportion of villages which gained and also the smallest increase during the 1970's.

The role of small towns and villages appears to be changing. Many of them began as service centers for agriculture, providing supplies needed by farmers as well as aiding in the sales of the local products.

The decline in the retail trade services of small towns and villages has been observed since some of the early studies of American villages in the 1920's and 1930's. There has been much discussion of the dying small town, but the physical or legal extinction of a place is a relatively rare event.

As the number of farms and of farm workers has declined the need for nearby service centers has gone down. Small towns and villages have come increasingly to be seen as places of residence which offered certain advantages even when the breadwinner went off to employment elsewhere in the county, in an adjacent county, or in the nearby easily reached metropolitan center. The decentralization of industry has been especially marked in the South. A variety of professional and other services have found small town locations advantageous.

Retirement and the expansion of recreational facilities have been elements in the growth of small towns and villages and this may also contribute to the continuing role of these places in our society. Many of them already have a relatively large share of their populations in the upper-age group. They also have a disproportionate share of older persons living alone.

The time when rural people could be readily distinguished from their city cousins has largely disappeared. Increasingly they have the same lifestyles, they watch the same television programs, read the same newspapers, study the same textbooks in the schools, and look to the weekly or biweekly paychecks for their sustenance.

Compared to the urban population, the rural population is more a native born white population. Although blacks were predominantly a rural population, that has changed with the heavy migration of blacks from the rural South which has been under way for most of this century. Today blacks account for only 6.6 percent of the rural population, whereas their share in the total population is nearly double that. Hispanics, too, have become more urban. Their share of the rural total comes to only 2.5 percent, compared to 6.4 percent for the country as a whole. It was the 1980 Census which found that Indians had followed other minorities in that more than half were living in urban areas.

These are national totals. Each of these minority groups is distributed very unevenly across the country and many smaller areas have one or another minority group in the majority while nearby areas have few or none among their residents. Towns and counties can be found in which one of these minority groups accounts for a large portion or even a majority of the population.

The rural population includes more than its share of children under 15 years of age, compared to its share of the total population, but the difference is not large. Although the rural elderly have shown some preference for life in small towns and cities (population of 1,000 to 2,500), nearly 5.5 million live outside these places, many of them in relatively isolated settings.

The growth of the population of senior citizens has led to special attention to this group. Their geographic distribution is not evenly spread over the country. It reflects migration patterns over a considerable time span.

Many rural areas have a relatively high share of elderly residents for older people are less likely to move than younger persons. The fact that Iowa, Kansas, Missouri, Nebraska, and South Dakota rank among the States with the highest proportion of elderly in their populations is based on the outmigrations of the past. The rapid growth in the proportion of elderly persons in the population of Florida and New Mexico is also based on migration but, in this instance, is a migration of older persons looking for escape from cold climates or for other reasons.

Nationally, the population 65 years old or over accounts for 11.3 percent of the total. The proportion is significantly higher in many areas. The proportion of elderly can have a major impact on the ability of the local government to provide expected resources and services. With a population where one in four persons is 65 years old and over, the problems of devising and carrying out programs designed to provide assistance and services for the elderly, while meeting the needs of other age groups, can become a severe burden. This is especially the case where that sector of the population lives on relatively low and fixed incomes. If, as is rumored in the press, the county governments are to assume responsibility for a larger sector of public services, the age composition of the resident population becomes a matter of considerable weight.

Governments of counties and villages with small populations and with growth of the elderly population are already under serious pressures and these are likely to increase.

WORK AND INCOME

Workers who live in rural areas are engaged in a wide range of occupations. The 1980 Census reported a total of 97.6 million persons 16 years old or over who were working during the week preceding the Census. Of these, 2.4 million men and 0.4 million women reported their occupations in agriculture. Thus, a little more than 4 percent of men and about 1 percent of the women reported their occupations in agriculture.

There were nearly 20 million (19.8 million) rural households in 1980. Approximately one rural household in 10 (2.1 million) reported some income from self-employment in agriculture. Approximately one-fourth (23.8 percent) of the households headed by a man reported that their incomes from self-employment in farming accounted for 75 percent or more of the total household income. More than twice as many (50.8 percent) households reported that less than a fourth of their total incomes came from the operation of a farm. As a household unit, these are part-time farmers, though in some cases, the man spends virtually full-time in agriculture while another member of the household is engaged in nonagricultural work. There are others in which the man has a nonfarm job and does the farm work too. There are reports of some ingenious arrangement of work time and annual and other leaves to accomodate peak labor demands for the farming activities.

Money income for households in rural areas is generally less than that for families in metropolitan areas. Heads of households who were full-time, year-around workers in 1983 had a median family income of $27,295 in nonmetro areas, while the comparable figure for metro areas was $34,000, about 25 percent higher. The medians for white families were slightly higher. Those in metro areas were also about 25 percent higher than those in the nonmetro areas. Black families had income levels about one-fourth below those for white families, but the relationship between incomes in metro and nonmetro areas was the same as for white families. The median incomes of families headed by a person of Spanish origin were lower than those for blacks in metro areas but between those for white and black families in nonmetro areas. The result was that for this group of families, the medians were higher in the nonmetro areas. Their situation was exceptional in that the medians for metro areas were lower than the others. A partial explanation is found in the fact that family size differs among these three ethnic groups. The comparison of incomes per family member is less favorable to the Hispanic group and, for them, the averages for nonmetro areas fall below those in metro areas.

Figures for 1979 show the following median family incomes:

Total	$17,831
No income from farm self-employment	24,161
Only income from farm self-employment	12,240
Income from farm self-employment exceeds income from other sources	22,930
Income from other sources exceeds that from farm income	23,411

The combination of income from farm self-employment and other employment yields total income lower than that of the families that have no income from agriculture. It appears that the effect of such a combination is more pronounced when off-farm income is already high and is supplemented by farm income. The operators of relatively smaller farms rely on the off-farm income to bring them up, but even with the combined incomes they do not reach the average of families that have only nonfarm income.

III. EMPLOYMENT

PATTERNS OF CHANGE IN THE NONMETRO AND METRO LABOR FORCE SINCE 1979

By Herman Bluestone and John Hession *

Cyclical Changes in Employment and the Unemployment Rate

Nonmetropolitan areas underperformed metropolitan areas [1] in employment growth during the 1979 to 1982 recession and during the first two years of the 1982 to 1985 recovery.

Recession in Nonmetro and Metro Areas

During the 1979 to 1982 downturn in economic activity, nonmetro areas were less successful than metro areas in providing additional jobs for their expanding labor force. The civilian labor force expanded at a rate of about 1.7 percent per year in both nonmetro and metro areas (Figure 1). However, employment during these three years fell slightly in nonmetro areas while rising .4 percent per year in metro areas. As a result of these employment and labor force changes, the unemployment rate in nonmetro areas jumped 1.6 percentage points per year between 1979 and 1982 while the metro rate rose only 1.2 percentage points. The unemployment rate in 1982 stood at 11.1 percent in nonmetro areas compared with 9.3 percent in metro areas.

Regional Impacts of the Recession

The recession had its most devastating effects on both nonmetro and metro areas in the Midwest. While employment at the national level continued to increase slightly between 1979 and 1982, employment in the Midwest dropped 1.3 percent per year in nonmetro areas and 1.6 percent in metro areas (Figure 2). The unemployment rate in the Midwest rose almost 2 percentage points per year in both nonmetro and metro areas (Figure 3). In the Nation as a whole, the annual average unemployment rate increase was 1.3 percentage points. Nonmetro areas fared worse than metro areas in all Census regions except the Midwest during the 1979 to 1982 period. Nonmetro unemployment rates in 1982 ranged from 10.6 percent in the Northeast to 12.0 percent in the West (Appendix Table 1).

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* U.S. Department of Agriculture, Economic Research Service, Washington, D.C.

[1] The metropolitan delineation used here was designated by the Office of Management and Budget in 1983. It is based on population and commuting data from the 1980 Census of Population.

Figure 1

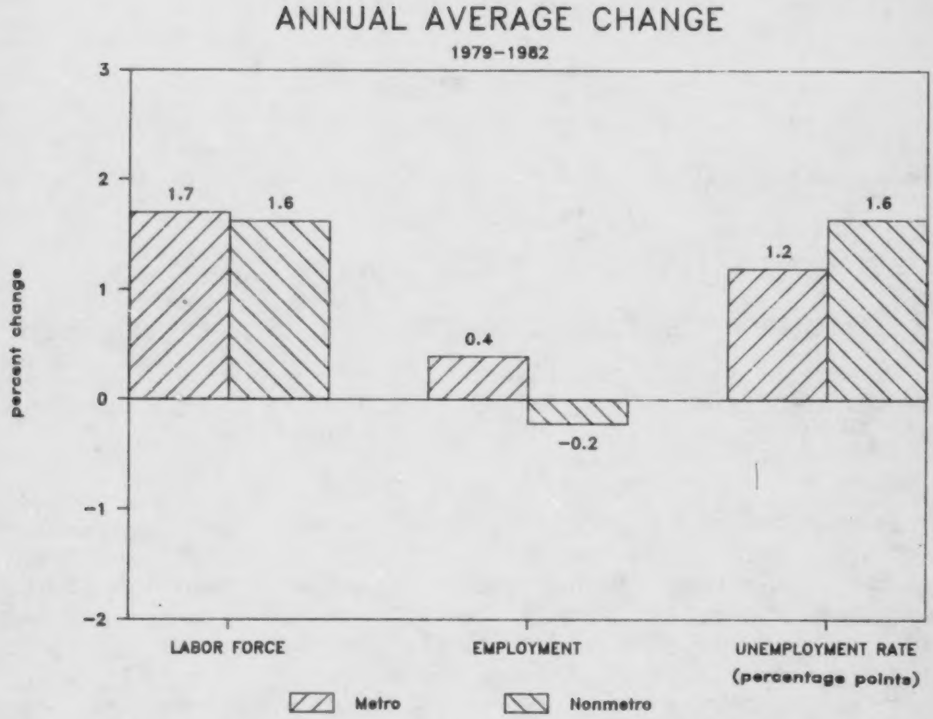

ANNUAL AVERAGE CHANGE
1979-1982
percent change
3
2
1
0
-1
-2
1.7
1.6
0.4
-0.2
1.2
1.6
LABOR FORCE
EMPLOYMENT
UNEMPLOYMENT RATE (percentage points)
Metro
Nonmetro

Figure 2

ANNUAL AVERAGE EMPLOYMENT CHANGE

1979–1982

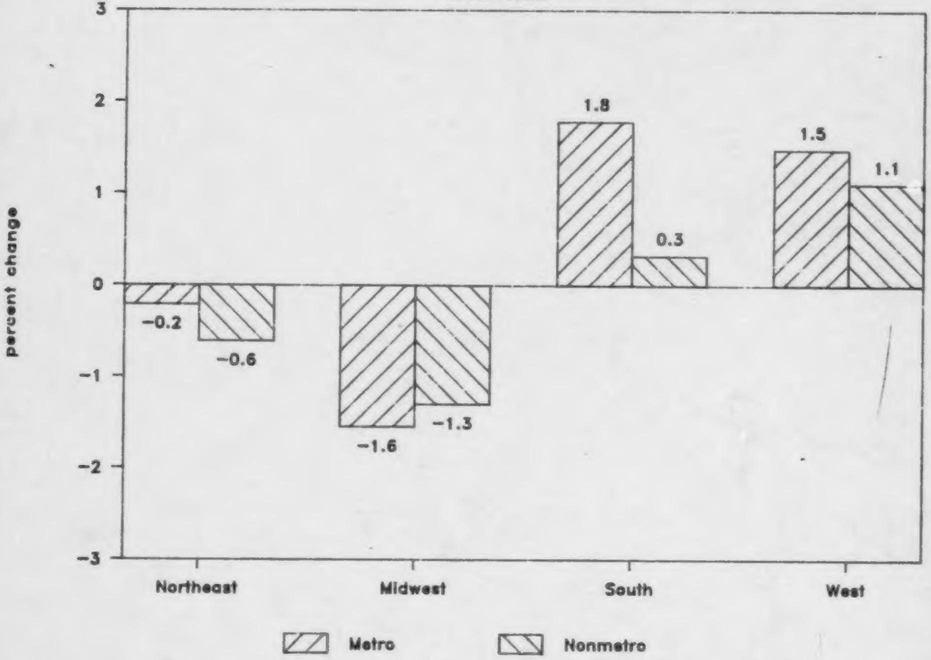
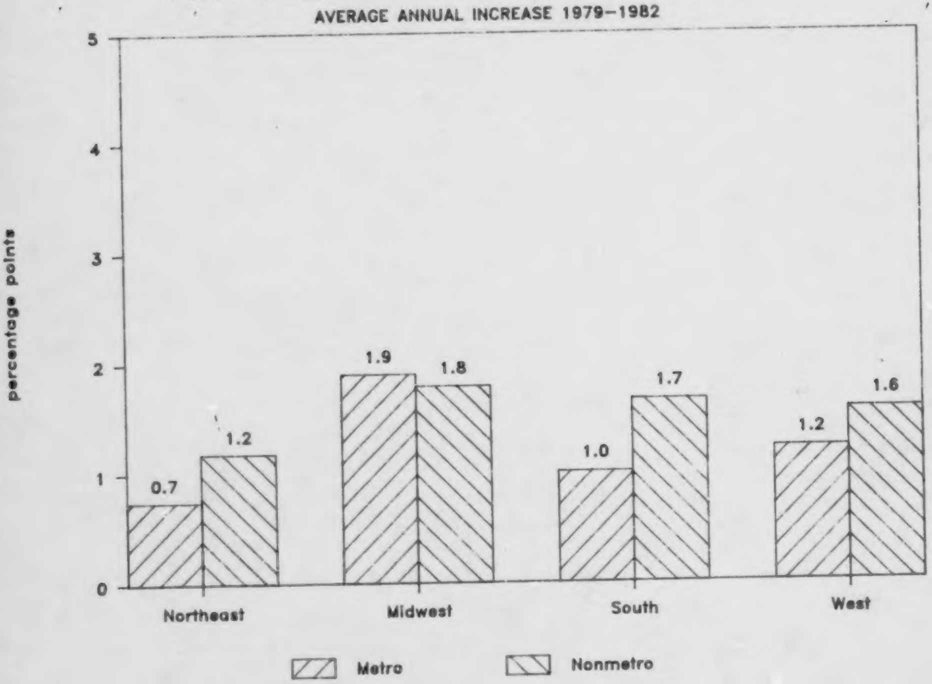


Figure 3



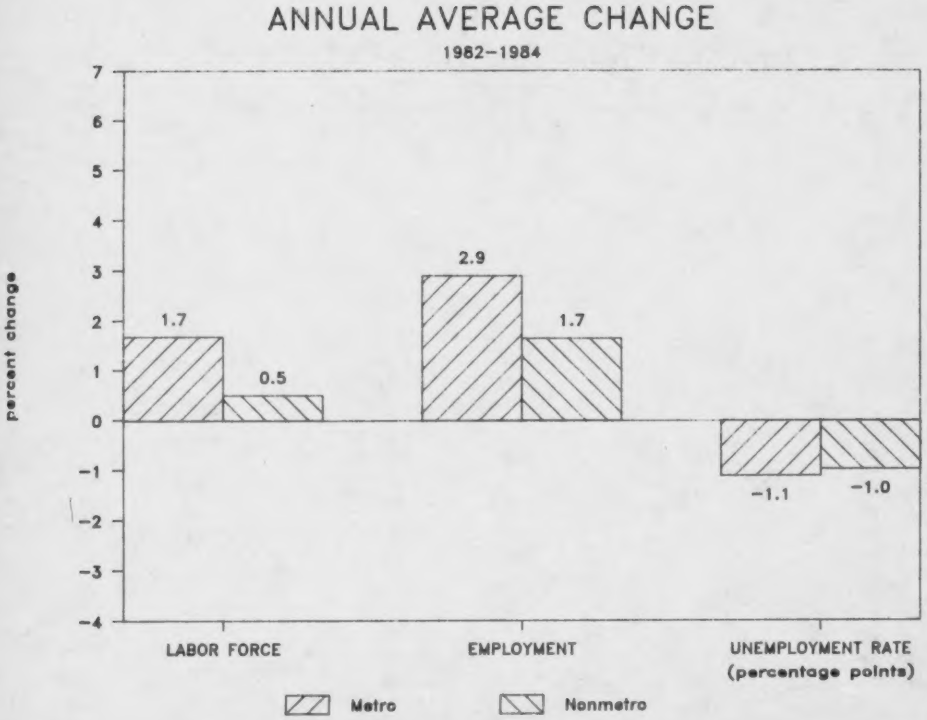
INCREASE IN RATE OF UNEMPLOYMENT

AVERAGE ANNUAL INCREASE 1979–1982

Recovery in Nonmetro and Metro Areas

Between 1982 and 1984, the labor force and employment expanded less rapidly in nonmetro than metro areas. The nonmetro rate of employment increase, at 1.7 percent per year, was only about half as large as the metro rate of gain (Figure 4). And, nonmetro labor force growth at .5 percent was only about a third as great as metro growth. The rate of unemployment, however, was reduced by about one percentage point per year in both nonmetro and metro areas. Still, the unemployment rate in 1984 was 9.1 percent in nonmetro areas and 7.1 percent in metro areas.

Figure 4



All major regions participated in the employment growth, with the largest percentage gains occurring in the South and West. The annual average rate of increase in nonmetro areas was only slightly below the metro rate in the Northeast, but in the other three major regions, nonmetro growth rates were more than a third below metro rates (Figure 5). The unemployment rate was reduced by about the same number of percentage points in nonmetro and metro areas in all regions except the Midwest. In the Midwest the unemployment rate was reduced somewhat more in metro than nonmetro areas (Figure 6). The nonmetro unemployment rate in 1984 was over 9 percent in the West and South and over 8 percent in the Northeast and Midwest. Only in the Midwest was the metro area unemployment rate as high as 8 percent in 1984.

Figure 5

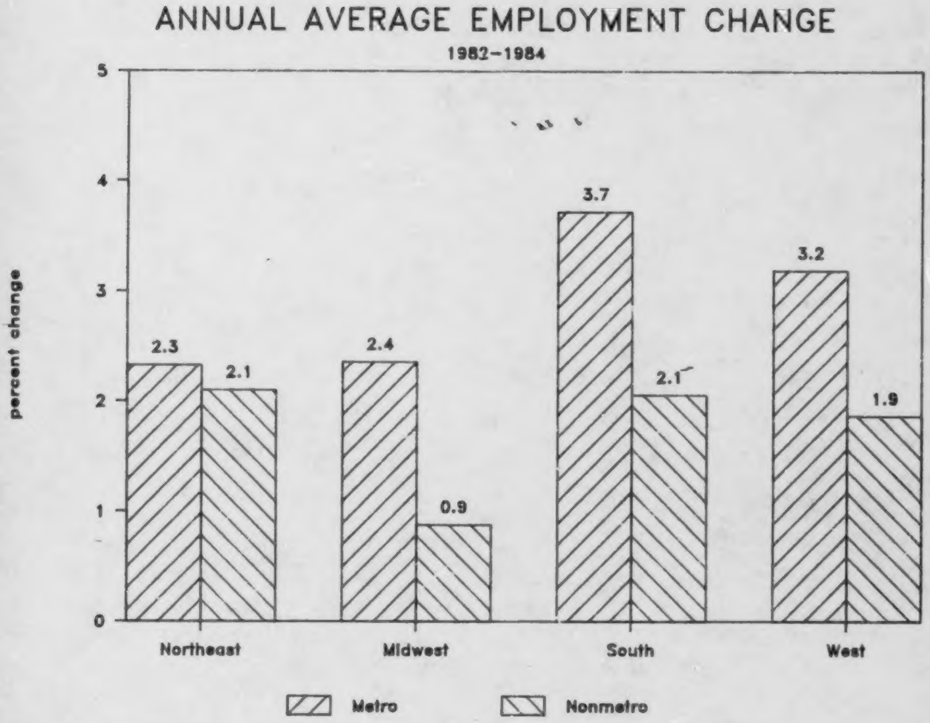
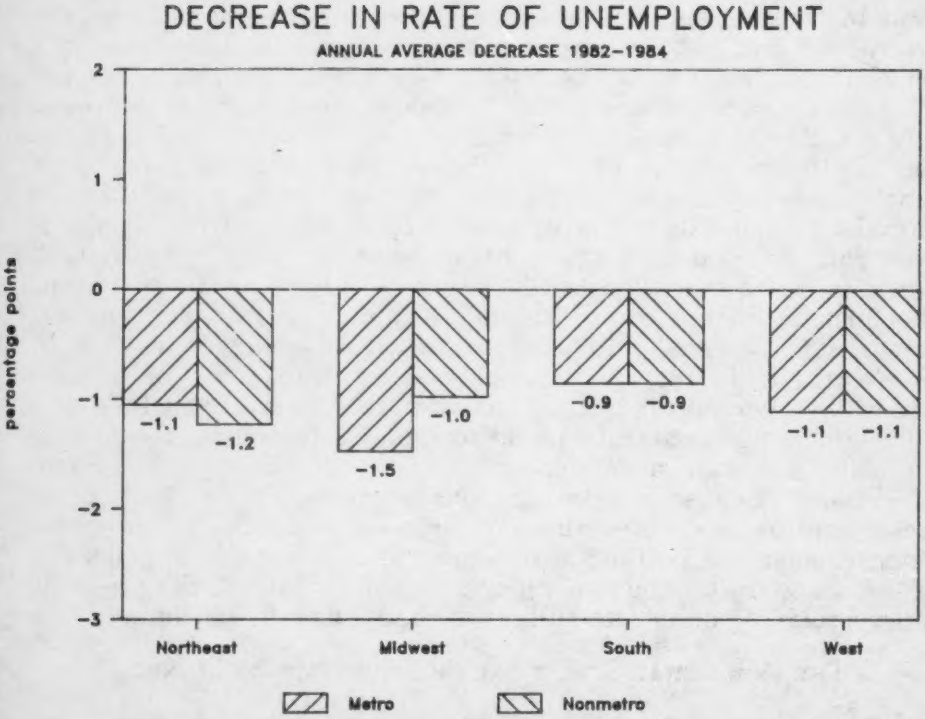

ANNUAL AVERAGE EMPLOYMENT CHANGE
1982–1984
percent change
0
1
2
3
4
5
2.3
2.1
2.4
0.9
3.7
2.1
3.2
1.9
Northeast
Midwest
South
West
Metro
Nonmetro

Figure 6



The Business Cycle in Farm Counties

Those nonmetro counties that greatly depend on agriculture fared slightly better than other nonmetro counties between 1979 and 1982, but after 1982 when the farm sector came under increasing financial stress, the farm-dependent counties [2] did much more poorly than other nonmetro counties. During the 1979 to 1982 recession, employment fell slightly in both the farm-dependent counties and other nonmetro counties (Appendix Table 2). However, over the next two years employment rebounded by only .8 percent per year in the farm-dependent counties, far less than the 1.8 percent gain in other nonmetro counties. Between 1982 and 1984, the unemployment rate was reduced by only .4 percentage point per year in farm-dependent counties, .7 percentage point less than in the rest of nonmetro America.

Farm Counties in the Corn Belt and Northern Plains

Some 45 percent of the Nation's farm-dependent counties are located in the Corn Belt and the Northern Plains. Those in the Corn Belt were much more severly affected by the recession than those in the Northern Plains because they, like other Corn Belt counties, are heavily committed to durable goods manufacturing. Employment in farm-dependent counties declined 1.4 percent per year between 1979 and 1982 in the Corn Belt but was essentially stable in the Northern Plains. As the economy recovered between 1982 and 1984, economic conditions in the farm-dependent counties improved only marginally in both the Corn Belt and Northern Plains. In the Corn Belt, the sharp 1979 to 1982 decline in employment was almost arrested and in the Northern Plains employment change shifted from slightly negative to slightly positive. The unemployment rate dropped a half percentage point per year between 1982 and 1984 in the Corn Belt but hardly at all in the Northern Plains. The farm-dependent county unemployment rate in the Corn Belt averaged 8.3 percent in 1984 compared with 4.4 percent in 1979. In the Northern Plains the farm-dependent county unemployment rate was 4.5 percent in 1984 compared with 2.9 percent in 1979.

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[2] Farm-dependent counties are defined as those nonmetro counties where farm income during the 1975–79 period accounted for 20 percent or more of total labor and proprietors income. More information on these counties can be found in Lloyd D. Bender, *et al.*, *The Diverse Social and Economic Structure of Nonmetropolitan America*, Rural Development Research Report No. 49, USDA, ERS, September 1985.

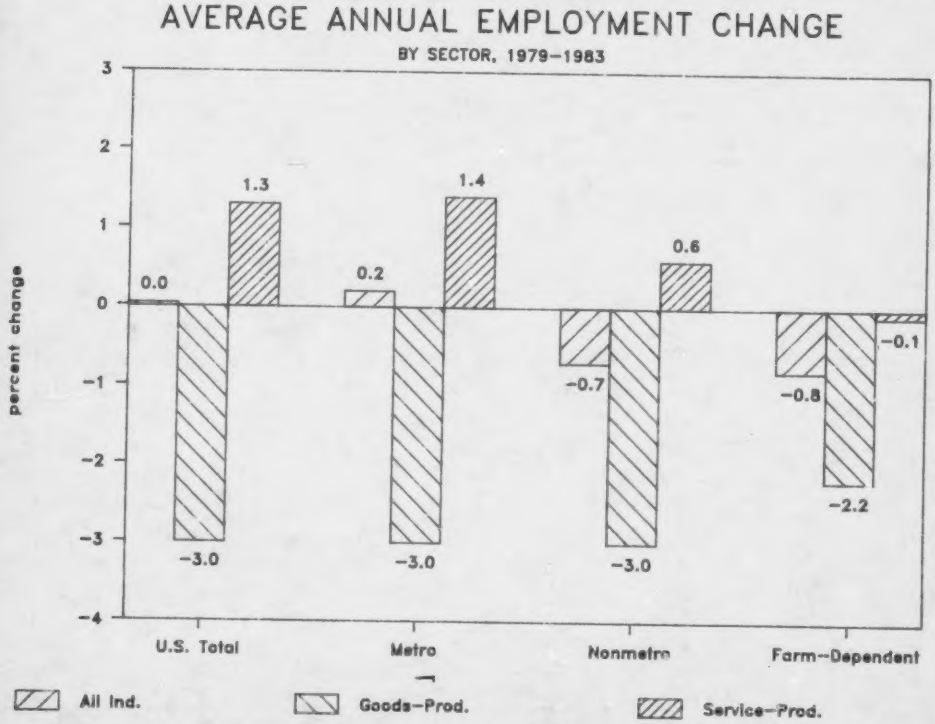
The unemployment rate tends to understate the degree of economic distress in farm-dependent counties, especially in the Northern Plains, because a relatively large proportion of workers in these counties are self-employed farmers or small businessmen. When economic conditions are depressed, these workers generally do not show up on the unemployment rolls. Rather, they become underemployed, unable to fully put their labor to its highest use.

THE INDUSTRIAL STRUCTURE OF EMPLOYMENT CHANGE

Nonmetro Areas versus Metro Areas

Nonmetro areas lagged behind metro areas in employment growth mainly for two reasons. First, nonmetro areas are more heavily committed than metro areas to the goods-producing industries, and the production of goods declined by 3.0 percent per year in both nonmetro and metro areas between 1979 and 1983 (Figure 7). Wage and salary employment in the goods-producing industries (agriculture, manufacturing, mining, and construction) accounted for 32.3 percent of employment in nonmetro areas in 1983 compared with 23.9 percent in metro areas (Appendix Table 3). Data on total employment which includes self-employed farmers, if it were available, would indicate that more than a third of all jobs in nonmetro areas were in the goods-producing industries.

Figure 7



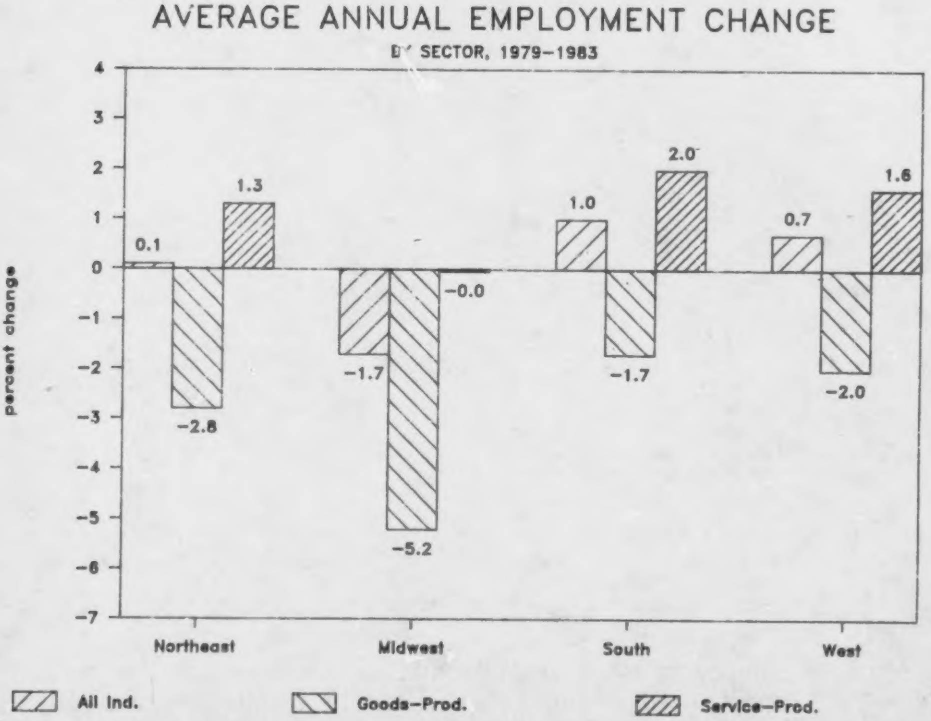
Much of the decline in goods-producing employment can be attributed to intensified foreign competition in agriculture, manufacturing, and energy extraction, but part of the decline also stems from gains in labor productivity. U.S. industries producing internationally traded goods were put at a competitive disadvantage by the rising exchange value of the dollar which tended to price U.S. products out of both domestic and world markets. In addition, historically high real interest rates increased production costs, especially in highly leveraged capital-intensive industries such as agriculture, reducing earnings and discouraging production expansion. Furthermore, reduced income and net worth of participants in these industries also curtailed demand for goods and services in other industries, especially in closely related industries.

Second, nonmetro employment growth was limited by the relatively poor performance of the service-producing sector. Service-producing employment increased less than half as fast in nonmetro as in metro areas. Employment in private services, trade, and government combined expanded .6 percent per year in nonmetro areas and 1.4 percent in metro areas (Figure 7).

Regional Differences

Employment in the goods-producing sector declined in each of the four major regions between 1979 and 1983. The yearly rate of decline was 2 percent or less in the South and West, 2.8 percent in the Northeast and 5.2 percent in the Midwest (Figure 8). Goods-producing employment declined more percentagewise in nonmetro than metro areas in every region except the Midwest.

Figure 8



Service-producing employment increased in all regions except the Midwest over the four-year period, ranging from an annual average rate of 1.3 percent in the Northeast to 2.0 percent in the South. The rate of employment growth in the service-producing industries was slightly to moderately lower in nonmetro than metro areas in all regions except the South where the nonmetro rate was a full 1.3 percentage points below the metro rate.

Farm-dependent Counties

Between 1979 and 1983, farm-dependent counties experienced a lower rate of employment decline in goods-producing employment than other nonmetro counties but had no increase at all in service-producing jobs. Goods-producing employment declined 2.2 percent per year in the farm-dependent counties and 3.1 percent in other nonmetro counties. Service-producing employment declined slightly in the farm-dependent counties while increasing seven tenths of a percent per year in other nonmetro counties. Among farm-dependent counties, the rate of employment decline in both goods-producing and service-producing industries was greater in the Corn Belt than in the Northern Plains.

PROSPECTS FOR THE FUTURE

As the analysis has revealed, the economic outlook for rural areas hinges importantly on the performance of the Nation's good-producing industries. These industries have been under considerable stress, partly because of the strong dollar and historically high interest rates. However, over the past year, there has been some improvement in both of these factors. Between February 1985 and November 1985, the Federal Reserve Board's trade weighted exchange rate declined 21.1 percent, and the interest rate on Moody's AAA long term bonds which peaked at 15.5 percent in September 1981 had declined to 10.1 percent by December 1985. Long term interest rates declined 2 percentage points during 1985 alone. While it takes many months for such changes to be fully translated into increased goods production, we would expect these trends (especially if continued) to lay the groundwork for some further revival in the goods-producing sector and hence some relative improvement in the overall performance of the rural economy. Success in reducing the national budget deficit could also take pressure off interest rates and also might contribute to further improvement in the economic outlook for rural areas.

APPENDIX TABLE 1.—CIVILIAN LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT RATE, 1979, 1982, AND 1984

Area and type of county	Number of counties	Civilian labor force (thousands)			Employment (thousands)			Unemployment rate (percent)		
		1979	1982	1984	1979	1982	1984	1979	1982	1984
United States	3,140	104,993	110,355	113,495	98,912	99,663	104,959	5.8	9.7	7.5
Metro [1]	735	81,140	85,343	88,210	76,524	77,421	81,983	5.7	9.3	7.1
Nonmetro	2,405	23,853	25,012	25,285	22,388	22,242	22,976	6.1	11.1	9.1
Farm-dependent [2]	694	3,452	3,598	3,620	3,263	3,254	3,303	5.5	9.6	8.8
Northern Plains	184	518	527	532	503	502	508	2.9	4.7	4.5
Corn Belt	132	886	895	879	847	812	806	4.4	9.3	8.3
Other	378	2,048	2,176	2,209	1,913	1,940	1,989	6.6	10.8	10.0
Other	1,711	20,401	21,414	21,665	19,125	18,988	19,673	6.3	11.3	9.2
Northeast	217	23,020	23,440	23,958	21,500	21,337	22,321	6.6	9.0	6.8
Nonmetro	100	2,429	2,479	2,514	2,258	2,217	2,310	7.0	10.6	8.1
Metro	117	20,591	20,961	21,444	19,242	19,120	20,011	6.6	8.8	6.7
Midwest	1,054	28,093	28,538	28,778	26,552	25,373	26,353	5.5	11.1	8.4
Nonmetro	859	8,051	8,204	8,170	7,611	7,315	7,444	5.5	10.8	8.9
Metro	195	20,042	20,334	20,608	18,941	18,058	18,909	5.5	11.2	8.2
South	1,425	33,658	36,396	38,042	31,857	33,139	35,289	5.4	8.9	7.2
Nonmetro	1,078	10,087	10,753	10,982	9,473	9,563	9,957	6.1	11.1	9.3
Metro	347	23,571	25,643	27,060	22,384	23,576	25,332	5.0	8.1	6.4
West	444	20,222	21,981	22,717	19,003	19,814	20,996	6.0	9.9	7.6
Nonmetro	368	3,286	3,576	3,619	3,046	3,147	3,265	7.3	12.0	9.8
Metro	76	16,936	18,405	19,098	15,957	16,667	17,731	5.8	9.4	7.2

[1] This metro delineation, designated by the Office of Management and Budget in 1983, is based on population and commuting data from the 1980 Census of Population.

[2] Counties where farm income accounted for 20 percent or more of total labor and proprietors income in 1975 to 1979.

Source: Bureau of Labor Statistics.

APPENDIX TABLE 2.—CHANGE IN CIVILIAN LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT RATE, 1979 TO 1982, AND 1982 TO 1984

Area and type of county	Civilian labor force			Employment			Unemployment rate		
		1984 (thousands)		1984 (thousands)	Percent annual average change		1984 (percent)	Total change (percent)	
	Percent annual average change	1979-82	1982-84		1979-82	1982-84		1979-82	1982-84
United States	113,495	1.7	1.4	104,959	0.3	2.7	7.5	3.9	−2.2
Metro [1]	88,210	1.7	1.7	81,983	.4	2.9	7.1	3.6	−2.2
Nonmetro	25,285	1.6	.5	22,976	−.2	1.7	9.1	4.9	−1.9
Farm-dependent [2]	3,620	1.4	.3	3,303	−.1	.8	8.8	4.1	−.8
Northern Plains	532	.6	.5	508	−.1	.6	4.5	1.8	−.2
Corn Belt	879	.3	−.9	806	−1.4	−.4	8.3	4.9	−1.0
Other	2,209	2.1	.8	1,989	.5	1.3	10.0	4.3	−.9
Other	21,665	1.7	.6	19,673	−.2	1.8	9.2	5.1	−2.1
Northeast	23,958	.6	1.1	22,321	−.3	2.3	6.8	2.4	−2.1
Nonmetro	2,514	.7	.7	2,310	−.6	2.1	8.1	3.5	−2.5
Metro	21,444	.6	1.2	20,011	−.2	2.3	6.7	2.2	−2.1
Midwest	28,778	.5	.4	26,353	−1.5	1.9	8.4	5.6	−2.7
Nonmetro	8,170	.6	−.2	7,444	−1.3	.9	8.9	5.4	−2.0
Metro	20,608	.5	.7	18,909	−1.6	2.4	8.2	5.7	−2.9
South	38,042	2.7	2.3	35,289	1.3	3.2	7.2	3.6	−1.7
Nonmetro	10,982	2.2	1.1	9,957	.3	2.1	9.3	5.0	−1.7
Metro	27,060	2.9	2.8	25,332	1.8	3.7	6.4	3.0	−1.7
West	22,717	2.9	1.7	20,996	1.4	3.0	7.6	3.8	−2.3
Nonmetro	3,619	2.9	.6	3,265	1.1	1.9	9.8	4.7	−2.2
Metro	19,098	2.9	1.9	17,731	1.5	3.2	7.2	3.7	−2.3

[1] This metro delineation, designated by the Office of Management and Budget in 1983, is based on population and commuting data from the 1980 Census of Population.

[2] Counties where farm income accounted for 20 percent or more of the total labor and proprietors income in 1975 to 1979.

Source: Bureau of Labor Statistics.

APPENDIX TABLE 3.—EMPLOYMENT CHANGE IN THE GOODS-PRODUCING AND SERVICE-PRODUCING INDUSTRIES, 1979 TO 1983

Area and type of county	All industries			Goods-producing industries			Service-producing industries		
	1983		Percent average annual change 1979–83	1983		Percent average annual change 1979–83	1983		Percent average annual change 1979–83
	Total number	Percent of group total		Total number	Percent of group total		Total number	Percent of group total	
United States	96,494,000	100	0.0	24,578,000	25.5	−3.0	71,916,000	74.5	1.3
Metro [1]	78,273,963	100	.2	18,699,059	23.9	−3.0	59,574,904	76.1	1.4
Nonmetro	18,220,037	100	−.7	5,878,941	32.3	−3.0	12,341,096	67.7	.6
Farm-dependent [2]	2,201,964	100	−.8	677,659	30.8	−2.2	1,524,305	69.2	−.1
Northern Plains	339,103	100	−.3	82,679	24.4	−.8	256,424	75.6	−.1
Corn Belt	493,244	100	−1.9	141,221	28.6	−4.4	352,023	71.4	−.8
Other	1,862,861	100	−.9	594,980	31.9	−2.4	1,267,881	68.1	−.1
Other	16,018,073	100	−.6	5,201,282	32.5	−3.1	10,816,791	67.5	.7
Northeast	21,315,010	100	.1	5,433,150	25.5	−2.8	15,881,860	74.5	1.3
Nonmetro	1,891,108	100	−.4	587,709	31.1	−3.1	1,303,399	68.9	1.0
Metro	19,423,902	100	.2	4,845,441	24.9	−2.7	14,578,461	75.1	1.4
Midwest	23,444,054	100	−1.7	6,452,414	27.5	−5.2	16,991,640	72.5	0
Nonmetro	5,594,243	100	−1.5	1,707,251	30.5	−4.0	3,886,992	69.5	−.2
Metro	17,849,811	100	−1.8	4,745,163	26.6	−5.6	13,104,648	73.4	0
South	32,378,333	100	1.0	8,366,082	25.8	−1.7	24,012,251	74.2	2.0
Nonmetro	7,994,032	100	−.3	2,921,708	36.5	−2.2	5,072,324	63.5	1.0
Metro	24,384,301	100	1.4	5,444,374	22.3	−1.4	18,939,927	77.7	2.3
West	19,356,603	100	.7	4,326,354	22.4	−2.0	15,030,249	77.6	1.6
Nonmetro	2,740,654	100	−.1	662,273	24.2	−3.5	2,078,381	75.8	1.1

APPENDIX TABLE 3.—EMPLOYMENT CHANGE IN THE GOODS-PRODUCING AND SERVICE-PRODUCING INDUSTRIES, 1979 TO 1983—Continued

Area and type of county	All industries			Goods-producing industries			Service-producing industries		
	1983		Percent average annual change 1979–83	1983		Percent average annual change 1979–83	1983		Percent average annual change 1979–83
	Total number	Percent of group total		Total number	Percent of group total		Total number	Percent of group total	
Metro	16,615,949	100	.9	3,664,081	22.1	−1.8	12,951,868	77.9	1.7

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[1] This metro delineation, designated by the Office of Management and Budget in 1983, is based on population and commuting data from the 1980 Census of Population.

[2] Counties where farm income accounted for 20 percent or more of total labor and proprietors income in 1975 to 1979.

Source: Bureau of Economic Analysis.

UNDEREMPLOYMENT IN NONMETROPOLITAN AMERICA, 1970 TO 1982 *

By Daniel T. Lichter and Janice A. Costanzo **

ABSTRACT

Because of the marginality of much employment in nonmetropolitan areas, many rural labor market analysts have argued for the development of measures of underemployment for nonmetropolitan and rural areas. In this chapter, we provide several indicators of underemployment for nonmetropolitan areas for the 1970 to 1982 period, employing the Labor Utilization Framework of Clogg and Sullivan (1983). Data from the March Current Population Survey reveal that economic underemployment, which includes sub-unemployment, unemployment, and underemployment by low hours and low income, was considerably more prevalent in nonmetropolitan than metropolitan areas. This pattern occurred regardless of year and/or region of the country considered. Our results confirm the suspicions of many that the officially defined unemployment rate provides only a crude indicator of economic hardship in nonmetropolitan areas and tends to mask spatially-based differences in economic hardship.

UNDEREMPLOYMENT

The post-1970 period in nonmetropolitan areas in the United States has been marked by considerable demographic and economic change. Although population growth appears to have slowed considerably since 1980 (Forstall and Engels, 1984), net migration during the 1970s favored nonmetropolitan and rural areas over metropolitan areas (Beale, 1975; Fuguitt, 1985; Lichter, Fuguitt, and Heaton, 1985). Moreover, economic activity and employment in rural areas have increased substantially during the past decade (Long and DeAre, 1982). Declines in farm employment have been offset by increases in the nonfarm sector. In addition, off-farm employment has increased—particularly among farm women—and the industrial mix in nonmetropolitan areas has become more diversified (Beale, 1980). For some observers this has laid to rest fears of continuing economic decline in nonmetropolitan America.

In the past, the official unemployment rate has often been used as a barometer of the economic health of nonmetropolitan areas. This economic indicator, however, has recently come under increasing criticism (Briggs, 1981; Tweeten, 1983). The unemployment rate, based on a simple dichotomy of employed and unemployed workers, does not necessarily provide an accurate indicator of rural labor market conditions (National Commission on Employment and Unemployment Statistics, 1979; Carter, 1982). Because of the marginality or inadequacy of some employment, the need for the development of measures of *underemployment* for nonmetropolitan and rural areas has become increasingly apparent. In this chapter, we provide several indicators of underemployment in nonmetropolitan areas for the 1970 to 1982 period, using the Labor Utilization Framework (LUF) developed by Clogg and Sullivan (Clogg, 1979; Clogg and Sullivan, 1983; Sullivan, 1978; Sullivan and Clogg, 1985, Clogg and Shockey, 1985).

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UNDEREMPLOYMENT IN NONMETROPOLITAN AREAS

In a recent review, Tweeten (1982) argued that the unemployment rate is not a good indicator of either "economic hardship" or the "underutilization of resources." By treating the employed as a homogenous group, the unemployment rate masks several labor force disparities between metropolitan and nonmetropolitan areas.

One disparity in economic hardship is that the prevalence of involuntary part-time employment is often higher in nonmetropolitan than metropolitan areas. Briggs (1982) attributes this to unfavorable weather conditions that differentially affect the rural labor force (e.g., agricultural workers), and to an unfavorable mix of industries having unstable labor requirements (e.g., construction, mining, etc.). The prevalence of so-called "discouraged workers," those no longer regarded as part of the labor force because they have given up looking for a job, is also higher in nonmetropolitan than metropolitan areas (Nilsen, 1979). In a related study of three counties in Florida, Carter (1982) showed that the highest percentage of discouraged workers was in the county with the highest percentage of rural population. Presumably, greater worker discouragement reflects the lack of employment opportunities in rural areas. Finally, poverty levels have historically been higher in rural and nonmetropolitan areas than metropolitan areas (Deavers and Brown, 1980). Not only do nonmetropolitan areas have a higher proportion of low income occupations, but Deavers and Brown (1979) have also shown that a higher percentage of poor rural households are headed by full-time workers than is true among urban households. Involuntary part-time employment, discouraged workers, and the "working poor" are aspects of economic hardship that are not adequately measured by traditional labor force concepts.

As a measure of labor resource utilization, the unemployment rate is also deficient in several respects. Not only is rural labor underutilized in terms of time and income as noted above, but there may also be mismatches between workers' skills or education and the educational requirements of the jobs in which these workers occupy. On a national scale, there has been much evidence of increasing "overeducation" (see Clogg and Shockey, 1984, and included references).

To what extent have limited employment opportunities in nonmetropolitan areas contributed to the underutilization of educational resources? Are nonmetropolitan workers more likely than metropolitan workers to be overeducated for the jobs they hold? To our knowledge, this issue has not previously been examined in nonmetropolitan areas, and remains an aspect of labor utilization not fully captured using current unemployment statistics.

The evidence summarized above lends support to Briggs' (1982:374) assessment that "nonmetro labor market researchers are in complete agreement that underemployment measures are mandatory for an adequate depiction of nonmetro labor market reality." This view is apparently fueled in part by a widespread belief that underemployment is a more prevalent feature of the labor force in nonmetropolitan than metropolitan areas (Briggs, 1982). Unfortunately, this has not been examined empirically over the recent past. As we shall illustrate in the next section, the Labor Utilization Framework provides measures that are more sensitive to nonmetropolitan labor market hardship and underutilization than does the officially defined unemployment rate. Although this framework has proven useful in the assessment of change in underemployment for the U.S. labor force (e.g., Clogg and Sullivan, 1983; Mutchler, 1985; Tipps and Gordon, 1985; Clogg and Shockey, 1985), to our knowledge this framework has not yet been applied to the metropolitan and nonmetropolitan sectors of the U.S. labor force.

THE LABOR UTILIZATION FRAMEWORK

The Labor Utilization Framework, initially developed for and applied to developing countries by Hauser (1974; 1977), has recently been extended to the U.S. labor force by Clogg and Sullivan (1983) using measures available in the *Current Population Survey.* This hierarchical framework disaggregates the population of working age into seven labor force categories. The population is first separated into those *not in the labor force* and those in the labor force. Those in the labor force are then disaggregated into various forms of underemployment and adequate employment.

"Economic underemployment," as coined by Clogg (1979), is a measure of economic hardship comprised of four components. It includes: (1) the *sub-unemployed,* a proxy for "discouraged workers;" (2) the *unemployed;* (3) the *underemployed by low hours,* or involuntary part-time workers; and (4) the *underemployed by low income,* or the "working poor." In this chapter, as in Clogg and Sullivan (1983), sub-unemployment is based on whether the respondent's reason for not looking for employment during the past four weeks was due to the belief that work was unavailable. Unemployment is measured following traditional practices, i.e., whether a respondent is currently out of work and has actively looked for work during the last four weeks. Involuntary part-time employment is based on the fulfillment of two criteria: the respondent was employed less than 35 hours during the survey week and gave "unable to obtain full-time work" as the reason for working only part-time. Unemployment by low income is based solely on respondents' labor market related income during the previous year. This form of underemployment includes those earning less than 1.25 times the official individual poverty threshold.

As a measure of resource underutilization, a fifth component, *occupational mismatch,* refers to those workers whose level of education greatly exceeds the average education of all workers with a similar occupational title. The criteria for determining occupational mismatch or overeducation is based on the mean years of education for all individuals in three-digit occupation categories, as defined by the U.S. Bureau of the Census. Employed individuals whose education level exceeds the mean plus one standard deviation for their occupation (as of 1970) are classified as mismatched [1] (see Clogg and Shockey, 1984, for complete details).

The last component, the *adequately employed,* is the residual category; it includes individuals in the labor force who are not underemployed.

Although LUF has not previously been applied to the total nonmetropolitan labor force, the utility of this framework for rural areas was demonstrated on a small scale by Carter (1982). He found that whereas unemployment rates varied between 5 and 13 percent for three nonmetropolitan counties in Florida, the percentage of the labor force that was underemployed varied between 30 and 40 percent. This suggests that the unemployment rate seriously underestimates the extent of economic hardship and underutilization in these areas. Carter's results clearly illustrate the potential usefulness of this framework for nonmetropolitan areas.

In this chapter, therefore, we apply LUF to nonmetropolitan and metropolitan areas for the period between 1970 and 1982, using the March annual demographic files of the *Current Population Survey* (CPS). Our analysis is restricted to the traditional labor force population, those aged 18 to 64, and is based on the 1970, 1975, 1980, and 1982 CPS files. The four years represent periods of considerable variation in unemployment in the United States. Our analysis includes two periods of high unemployment and economic recession (1975 and 1982), a period of low unemployment (1970), and a period of economic recovery and declining unemployment (1980). This time frame also bounds the period of the nonmetropolitan population "turnaround," and the subsequent period of slower growth in the early 1980s.

Our basic objectives will be (1) to assess recent changes in the extent of underemployment in nonmetropolitan areas, and (2) to examine metropolitan-nonmetropolitan differences in underemployment for the U.S. and each region. This not only allows us to evaluate the adequacy of traditional labor force statistics, but will enable us to determine whether the unemployment rate underestimates disparities between metropolitan and nonmetropolitan areas in labor market related hardship.

LABOR UTILIZATION IN NONMETRO AND METRO AREAS

Each of the LUF components is presented in Table 1 for metro and nonmetro areas for 1970, 1975, 1980, and 1982. It is perhaps not surprising that 1982, a year of economic recession, also represented a period when economic underemployment was high in both metro and nonmetro areas. But during each period considered, economic underemployment (column 5, Table 1), which includes the sub-unemployed, unemployed, involuntary part-time workers, and the working poor, was higher in nonmetro than metro areas.

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[1] Clogg and Shockey (1985) recognize that this measure of "overeducation" is based on rather arbitrary statistical criteria. And, while they suggest some caution about over-interpreting absolute levels of mismatch, they nevertheless argue that their indicator does adequately portary temporal variations and socio-demographic (e.g., age, sex) differentials in overeducation.

TABLE 1.—COMPONENTS OF UNDEREMPLOYMENT [1] IN METROPOLITAN AND NONMETROPOLITAN AREAS, 1970 TO 1982

	Economic underemployment					MM
	(SU +	UN +	LH +	LI) =	EU	
1970:						
Metro	0.88	4.06	2.07	5.26	12.27	9.56
Nonmetro	1.10	4.40	3.62	9.58	18.70	5.92
1975:						
Metro	1.48	8.50	3.89	5.47	19.34	12.93
Nonmetro	1.62	9.03	5.32	8.03	24.00	8.45
1980:						
Metro	1.06	6.01	3.09	6.04	16.20	17.17
Nonmetro	1.04	6.57	3.98	9.08	20.67	11.66
1982:						
Metro	1.39	9.04	4.53	6.40	21.36	16.89
Nonmetro	1.62	9.56	6.71	9.79	27.68	11.33

[1] SU = Subunemployment; UN = Unemployment; LH = Underemployment by low hours (i.e., involuntary part-time employment); LI = Underemployment by low income; EU = Total economic underemployment (i.e., Sum of SU, UN, LH and LI); MM = Occupational mismatch.

In periods of high unemployment, economic underemployment also appears to be very high. In 1982, for example, economic underemployment affected 21.36 and 27.68 percent of the metro and nonmetro labor forces, respectively. Yet, the unemployment rate appears to underestimate the relative extent of economic hardship in nonmetro areas. The nonmetro-to-metro unemployment ratio was only 1.06 in 1982. The nonmetro-to-metro economic underemployment ratio, however, was 1.30. A similar pattern was also found for 1970, 1975, and 1980. Thus, the unemployment rate appears to *minimize* the relative economic disadvantage in nonmetro areas when compared to the metro labor force.

Not only is the overall level of economic underemployment higher in nonmetro areas, but this is also the case for each of the four components of economic underemployment (columns 1–4, Table 1). Sub-unemployment, unemployment, and underemployment by low hours and income were found to be higher in nonmetro than in metro areas for each of the years considered. The various forms of economic underemployment also tended to be highest when unemployment was highest (i.e., 1975 and 1982). Metro-nonmetro disparities in economic underemployment appeared to be greatest for both underemployment by low hours and low income. As an example, in 1982 almost one in 10 in the nonmetro labor force was classified as working poor. In metro areas, the working poor represented only about 1 in 17 of the labor force.

Although economic underemployment is higher in all its forms in nonmetro areas, occupational mismatch is actually lower in nonmetro areas (column 6, Table 1). This is true for each period considered. The match between workers' educational levels and the educational requirements of their jobs, however, deteriorated overtime in both nonmetro and metro areas. Between 1970 and 1982, the prevalence of mismatch increased from 9.56 to 16.89 percent in metro areas, and from 5.92 to 11.32 percent in nonmetro areas. The substantial increase in overeducation found for the U.S. as a whole (Clogg and Shockey, 1984) has apparently occurred in both metro and nonmetro areas.

The higher mismatch in metro areas may reflect one or both of two processes. First, it may well be that the higher mismatch in metro areas is simply an artifact of higher overall educational levels in metro than nonmetro areas. Increases in education have been shown to be associated with higher rates of occupational mismatch (Clogg and Shockey, 1984), and to be "at risk" of mismatch requires some minimal level of education. Second, the calculation of each component of LUF is hierarchical in nature, meaning that other forms of underemployment (sub-unemployment, etc.) may operate to remove labor force participants from the population "at risk" of being mismatched. That is, individuals in nonmetro areas, who otherwise would be classified as mismatched, may be underemployed by one of the other components earlier in the hierarchy of LUF.

To assess these two alternative explanations, it is necessary to examine the components of underemployment in metro and nonmetro areas, within levels of education. If individuals with equivalent levels of education are more likely to be mismatched in nonmetro areas, then the metro-nonmetro differentials reported in Table 1 are artifactual—a result of metro-nonmetro differences in educational composition. Alternatively, if the lower mismatch in nonmetro areas persists *and* other forms of underemployment are differentially felt in nonmetro areas, then the second explanation may account for the lower mismatch in nonmetro areas.

In Table 2, underemployment components are presented by examining those with some education beyond grade 12 (i.e., some post-secondary schooling).[2] The results of this analysis are consistent with the second explanation of the metro-nonmetro differential in mismatch. Even when education is held constant, mismatch was greater in metro than nonmetro areas during each year considered. For example, in 1982, 34.58 percent of the metro labor force with some college was mismatched, compared to 30.74 in nonmetro areas. Yet, when the forms of economic underemployment are examined, those with post-secondary education in nonmetro areas suffered higher levels of sub-unemployment, unemployment, involuntary part-time employment, and low income than their metro counterparts. In 1982, 17.17 percent were "economically underemployed" in nonmetro areas compared to 13.68 percent in metro areas. Interestingly enough, unemployment rates revealed relatively little difference in economic hardship between these comparable segments of the metro and nonmetro labor forces.

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[2] For reasons of parsimony, we have limited our analysis to those with more than 12 years of formal schooling. Obviously, metropolitan and nonmetropolitan areas may still display quite different educational distributions above our education threshold. To minimize this possibility, the results in Table 2 were replicated for those with 16 or more years of schooling. The results were very similar to those presented in Table 2, and provided the same substantive conclusions concerning metro-nonmetro differentials in underemployment.

TABLE 2.—COMPONENTS OF UNDEREMPLOYMENT [1] IN METROPOLITAN AND NONMETROPOLITAN AREAS, EDUCATION GREATER THAN 12 YEARS, 1970 TO 1982

	Economic underemployment					MM
	(SU +	UN +	LH +	LI) =	EU	
1970:						
Metro	0.61	3.02	0.91	4.01	8.55	27.65
Nonmetro	.50	3.10	1.11	5.34	10.05	23.30
1975:						
Metro	1.09	5.47	2.43	4.79	13.78	30.67
Nonmetro	1.43	5.26	2.34	5.51	14.18	27.76
1980:						
Metro	.61	3.79	1.89	4.56	10.85	36.44
Nonmetro	.66	3.70	2.38	6.18	12.92	31.67
1982:						
Metro	.80	5.48	2.73	4.67	13.68	34.58
Nonmetro	1.11	5.50	3.78	6.78	17.17	30.74

[1] See footnote 1, Table 1.

These results reinforce the earlier conclusion that economic underemployment differentially affects the nonmetro labor force. The unemployment rate, as a barometer of labor market related hardship and skill underutilization, provides only a crude portrait of the conditions in rural and nonmetro labor markets.

LABOR UTILIZATION ACROSS U.S. REGIONS

Our measures of underemployment, as portrayed in Tables 1 and 2, are for the total nonmetro U.S. and may seriously misrepresent regional differences in labor utilization. For example, there is considerable regional variation in poverty levels and unemployment rates in the U.S. (Deavers and Brown, 1980). Consequently, in Table 3 the LUF components are presented for metro and nonmetro areas in each of the four Census-defined regions. These data reveal many regional differences in underemployment and provide the basis for several general conclusions.

TABLE 3.—COMPONENTS OF UNDEREMPLOYMENT [1] IN METROPOLITAN AND NONMETROPOLITAN AREAS, BY REGION, 1970 TO 1982

	Economic Underemployment					MM
	(SU +	UN +	LH +	LI) =	EU	
Northeast:						
1970:						
Metro	0.76	3.59	1.51	4.05	9.91	8.89
Nonmetro	.81	4.09	1.92	5.65	12.47	6.66
1975:						
Metro	1.67	9.34	3.55	4.71	19.27	11.66
Nonmetro	1.44	9.26	4.33	6.11	21.17	9.66
1980:						
Metro	1.15	6.29	3.14	5.18	15.76	15.79
Nonmetro	.89	6.37	3.51	6.89	17.66	12.30
1982:						
Metro	1.36	8.60	4.19	5.67	19.82	16.61
Nonmetro	.67	8.78	5.27	6.72	21.44	15.79
North Central:						
1970:						
Metro	.67	3.85	2.27	5.07	11.86	8.33

TABLE 3.—COMPONENTS OF UNDEREMPLOYMENT [1] IN METROPOLITAN AND NONMETROPOLITAN AREAS, BY REGION, 1970 TO 1982—Continued

	Economic Underemployment					
	(SU +	UN +	LH +	LI) =	EU	MM
Nonmetro	.81	4.12	2.93	8.74	16.60	5.80
1975:						
Metro	1.48	8.95	3.90	4.86	19.19	11.98
Nonmetro	1.38	8.72	4.03	6.85	20.98	7.81
1980:						
Metro	1.06	7.20	2.96	5.53	16.75	15.04
Nonmetro	.95	7.14	4.01	8.28	20.38	10.91
1982:						
Metro	1.78	11.42	5.15	5.89	24.24	14.81
Nonmetro	1.59	10.88	7.00	9.36	28.83	10.21
South:						
1970:						
Metro	.87	3.73	2.19	7.06	13.85	9.59
Nonmetro	1.40	4.18	4.78	13.35	22.71	5.05
1975:						
Metro	1.24	6.53	3.82	6.75	18.44	13.21
Nonmetro	1.86	9.40	6.52	10.01	27.80	7.49
1980:						
Metro	1.18	5.13	3.10	7.32	16.73	17.45
Nonmetro	1.15	6.15	4.04	10.40	21.74	11.23
1982:						
Metro	1.36	7.37	4.21	7.57	20.51	17.20
Nonmetro	1.98	8.83	6.95	11.16	28.92	10.33
West:						
1970:						
Metro	1.34	5.50	2.46	5.09	14.39	12.29
Nonmetro	1.09	6.26	3.61	7.35	18.31	8.19
1975:						
Metro	1.57	9.23	4.39	5.58	20.77	15.39
Nonmetro	1.61	8.17	5.52	6.61	21.91	11.61
1980:						
Metro	.77	5.30	3.19	6.03	15.29	21.29
Nonmetro	1.04	7.43	4.50	8.01	20.98	16.61
1982:						
Metro	1.00	8.97	4.63	6.26	20.86	20.28
Nonmetro	1.14	10.80	6.82	8.17	26.93	16.63

[1] See footnote 1, Table 1.

Economic underemployment and its various forms are, in general, more prevalent in nonmetro areas than metro areas for each region and year considered. Differential underemployment appears to be a spatially pervasive feature of the nonmetro labor force. This differential, however, appeared to be greatest in the South. For example, in 1970 the difference between nonmetro and metro economic underemployment was 8.86 percentage points. By 1982, this metro-nonmetro differential in the South had narrowed only slightly to 8.41 percentage points.

It also appears that the unemployment rate masks inter-regional differences in economic hardship in nonmetro areas. In general, unemployment rates varied only modestly across regions (4.09 to 6.26 percent in 1970; 8.72 to 9.40 in 1975; 6.15 to 7.43 in 1980; and 8.78 to 10.88 in 1982). Our measure of economic underemployment for nonmetro areas revealed much more regional variability (12.47 to 22.71 in 1970; 20.98 to 27.80 in 1975; 17.66 to 21.74 in 1980; and 21.44 to 28.92 in 1982). Moreover, the unemployment rate inaccurately portrays some regional differences in economic hardship. As one example, the nonmetro unemployment rate was lower in 1982 in the South than in the West or North Central regions. Yet, economic underemployment was higher in the South than either of these two regions.

CONCLUSION

In this chapter, we have documented various forms of underemployment in nonmetropolitan areas during the 1970 to 1982 period, applying the Labor Utilization Framework of Clogg and Sullivan (1983). Despite the rapid demographic and economic changes that have occurred in nonmetropolitan and rural areas during the past decade or so, there have been few studies of employment marginality in nonmetropolitan areas (Briggs, 1982:378). As a measure of hardship and underutilization of labor resources, the unemployment rate has been criticized as both inaccurate and inadequate in describing the character of the labor market in nonmetropolitan areas (Tweeten, 1982; Carter, 1982). In general, the results presented here appear to support this criticism.

"Economic underemployment," which includes sub-unemployment, unemployment, and underemployment by low hours and low income, was considerably more prevalent in nonmetropolitan than metropolitan areas, regardless of period or region considered. Moreover, this was not due to educational differences between the metropolitan and nonmetropolitan labor forces. Nonmetropolitan workers with some post-secondary education were more likely to be economically underemployed than were their metropolitan counterparts. The components of underemployment appeared to be considerably more sensitive to economic hardship in nonmetropolitan areas than did the traditionally defined unemployment rate. Levels of unemployment were only about one-fourth to one-third the level of economic underemployment in nonmetropolitan areas during the 1970 to 1982 period.

The apparent high level of underemployment in nonmetropolitan areas is not simply of academic interest. The unemployment rate has been used in formulas for the allocation of funding for federal programs. To the extent that the unemployment rate masks or inaccurately portrays spatially-based differences in economic hardship, then these programs may not be serving their intended targets. As shown in this paper, nonmetropolitan areas unfortunately appear to be hurt the most by government reliance on the unemployment rate as an indicator of economic hardship. The Labor Utilization Framework appears to be a potentially useful alternative analytic device for the analysis of underemployment and hardship in nonmetropolitan areas.

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EMPLOYMENT IN RURAL AMERICA IN THE MID-1980'S

By the U.S. Department of Labor, Bureau of Labor Statistics, and the U.S. Department of Agriculture, Statistical Reporting Service

This study was prepared in response to Senator James Abdnor's June 13, 1985, letters to Secretary of Labor William E. Brock and Secretary of Agriculture John R. Block, expressing the Senator's concern that ". . . we don't even have a clear picture of rural America." The study introduces and evaluates newly available data disaggregated by urban and rural residence location and examines preliminary 1985 information based on an updated metropolitan/nonmetropolitan area classification. This report also provides special tabulations of other Bureau of Labor Statistics (BLS) data that shed light on some of the issues raised in Senator Abdnor's letter. While the study describes certain problems faced by rural area labor, it is neither comprehensive nor prescriptive because of the paucity of available data.

The lack of consistent, high quality statistics on rural America reflects a number of conceptual and operational problems involved in developing such data. The following are some of the major difficulties:

> There is no single, easy-to-understand definition of "rural," which means there are few accurate and consistent measures of rural America. Every 10 years, the Census provides information on the rural population. In many other cases, however, data for nonmetropolitan areas have been used as a proxy for rural data.
>
> Preliminary 1985 data based on the Census Bureau's rural/urban classification scheme show little difference between these two types of areas in terms of aggregate labor market measures, such as unemployment rates. By contrast, there appear to be significant differences based on the metropolitan/nonmetropolitan distinction.
>
> If, in fact, rural income and employment problems differ greatly from those in the urban United States, these differences are not identified adequately by national labor market measures.
>
> Since the rural population is small and geographically dispersed, it is difficult to obtain accurate information on it through national sample surveys.
>
> Even if special data targeted to the problems of rural Americans were developed, they would be difficult to use for Federal funding allocations because they would not be comparable with data for the rest of the country.
>
> "Rural specific" data would be quite expensive to produce and would require a long lead time to develop, because many theoretical and operational innovations would be required.

Comparing Rural and Nonmetropolitan Residents in 1985

Beginning in 1985, Current Population Survey (CPS) data have been tabulated separately for rural and urban areas on a quarterly basis, in addition to the previously available data for metropolitan/nonmetropolitan areas. Table 1 below presents summary employment status information by place of residence for the third quarter of 1985 and shows the interrelationship of the different geographic classifications.

TABLE 1.—SUMMARY EMPLOYMENT STATUS

	Civilian population ≥ 16 years old (in millions)	Labor force (in millions)	Unemployment rate (percent)	Employment-population ratio (percent)
Total, all categories	178.4	116.7	7.1	60.8
Metropolitan	137.9	91.6	6.8	61.9
Central cities	56.9	36.5	8.4	58.8
Other urban	60.2	41.0	5.6	64.2
Rural [1]	21.0	14.3	6.0	63.8
Nonmetropolitan	40.5	25.1	8.0	56.9
Urban	14.4	8.8	9.1	56.3
Rural	26.2	16.2	7.5	57.3
Urban (total)	131.2	86.2	7.2	61.0
Rural (total)	47.2	30.5	6.8	60.2

[1] Includes a small number of persons inside central cities.

Population

The rural population 16 years of age and over totaled 47 million, or about 26 percent of the U.S. total. This compares with about 40.5 million (23 percent of the U.S. total) living in nonmetropolitan areas. Approximately 26 million persons were common to both classifications, i.e., they lived in nonmetropolitan rural areas. In addition, about 21 million people lived in the rural portion of metropolitan counties, while another 14 million resided in urban areas of nonmetropolitan counties.

The difference between the rural and nonmetropolitan populations reflects very different classification criteria. The urban/rural distinction is based on population density. In general, cities, towns, etc. of 2,500 or more and land areas with 1,000 or more population per square mile are urban; all other territory is rural. Metropolitan areas, on the other hand, are defined using counties as building blocks and generally must have a central city with a population of at least 50,000. Other counties are included in a metropolitan statistical area (MSA) based on their economic ties to the central city county. Because entire counties are used to define MSA's, they can include considerable rural territory and population (21 million persons 16 years and over in 1985). By the same token, nonmetropolitan counties can include significant population in urbanized areas.

Labor Market Activity

Key labor market indicators differed little between rural and urban areas in the third quarter of 1985. For example, the rural unemployment rate was 6.8 percent, marginally lower than the 7.2

percent for urban areas. In contrast, the nonmetropolitan jobless rate, at 8.0 percent, was substantially above the 6.8 percent for metropolitan areas. The surprising lack of consistency between the rural and nonmetropolitan rates reflects the markedly different incidence of unemployment in the residence categories not common to the two classifications. In the rural portions of metropolitan counties, the jobless rate was only 6.0 percent, whereas the small towns and other urbanized areas of nonmetropolitan counties had a rate of 9.1 percent. The latter rate was the highest for any of the residence categories studied—even above the historically high rate in central cities.

Employment-population ratios (the proportion of the civilian population that is employed) also were similar for urban and rural areas, but differed sharply on a metropolitan/nonmetropolitan classification. The nonmetropolitan ratio (about 57 percent) was substantially lower than the ratio in metropolitan counties (62 percent).

Evaluation

We believe that the metropolitan/nonmetropolitan classification better reflects the labor market situation outside large cities than does the urban/rural distinction. There are a number of reasons for this conclusion. First, the nonmetropolitan population is smaller and more easily defined than the rural population. Second, there were plausible differences in findings between metropolitan and nonmetropolitan areas that were not evident in the urban/rural comparisons. This held true for most major demographic and labor market characteristics (see Appendix Table A–1). Third, much of the recent concern about rural America has focused not just on agriculture but also on the situation in small towns outside metropolitan areas. The labor market difficulties of these small towns have a significant impact on the all-nonmetropolitan data. In contrast, the relatively small population in the urban part of nonmetropolitan counties has little effect on the all-urban data. Fourth, the metropolitan/nonmetropolitan definitions are standard throughout the Federal Government, which means that many programmatic, statistical, and administrative data bases are tabulated on this classification. Furthermore, any system which identifies information at the county level can be aggregated to produce metropolitan and nonmetropolitan data.

For these reasons, the remainder of this study focuses on geographic information classified by county, rather than by the urban/rural dichotomy. Section II presents employment status information for 1985, the first CPS data available based on the recently updated sample and on the new MSA definitions that went into effect in June 1983. Sections III to V summarize findings from special tabulations of BLS data on labor-market-related problems in 1984, employment and unemployment for States and selected counties, and employment and annual earnings.

Noncomparability of Series

Four different types of BLS labor market data are presented in the following sections. However, due to the differences in sources, definitions, time periods etc., data are not comparable between sections.

PROFILE OF NONMETROPOLITAN AREA RESIDENTS

Beginning in 1985, CPS data have been tabulated on the metropolitan/nonmetropolitan definitions established after the 1980 decennial census. These new MSA definitions resulted in a substantial increase in the population for all metropolitan areas (about 20 million) and a corresponding reduction in the nonmetropolitan population. Given the magnitude of the change, CPS metropolitan/nonmetropolitan data for years prior to 1985 cannot be compared to the current information.

Before evaluating the new data, however, comparable metropolitan/nonmetropolitan data from the CPS for the 1973 to 1984 period are presented. As the tabulation in Table 2 below shows, the nonmetropolitan area unemployment rate shifted over this 12-year period from slightly below to slightly above the rate in metropolitan areas.

TABLE 2.—UNEMPLOYMENT RATES

Year	U.S.	Metro[1]	Nonmetro
1973	4.9	5.2	4.5
1974	5.6	5.8	5.2
1975	8.5	8.6	8.0
1976	7.7	8.0	7.0
1977	7.1	7.2	6.6
1978	6.1	6.1	5.9
1979	5.8	5.9	5.7
1980	7.1	7.0	7.3
1981	7.6	7.5	7.9
1982	9.7	9.5	10.1
1983	9.6	9.4	10.1
1984	7.5	7.3	8.1

[1] The metropolitan area classification consists of all areas included in Standard Metropolitan Statistical Areas (SMSA's) as defined in the 1970 decennial census. It does not include subsequent additions or changes.

This reversal in the relative position of the two unemployment rates occurred gradually. From 1973 to 1977, the nonmetropolitan rate was lower than the metropolitan rate; then in 1978 and 1979, jobless rates were virtually the same in both areas. Beginning in 1980, the nonmetropolitan rate edged above that for metropolitan area, and, from 1981 through 1984, this gap widened very slowly but steadily.

Population Characteristics in 1985

In the third quarter of 1985,[1] the nonmetropolitan population was older and more heavily white and Anglo than the metropolitan population.

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[1] Averages for the third quarter of 1985 are used because they are the first data based entirely on the new CPS sample design. See Kathleen P. Creighton and Robert Wilkinson, "Redesign of the Sample for the Current Population Survey," *Employment and Earnings*. May 1984, pp. 7-10 for more information on the redesign.

TABLE 3.—RACE-ETHNICITY

	Metro	Nonmetro
Total (in millions)	137.9	40.5
Percent	100.0	100.0
White	85.1	90.1
Black	11.8	8.3
Hispanic origin	7.7	2.2

The race-ethnic distinction was most marked for Hispanics, for whom the metropolitan area proportion was about 3.5 times that in nonmetropolitan areas. Approximately 18 percent of the nonmetropolitan area residents were 65 years of age or over, compared with 14 percent in metropolitan areas. On the other hand, nonmetropolitan areas had a smaller proportion of persons 20 to 34 years old than did metropolitan areas—31 versus 35 percent (see Appendix Table A-1).

Employment and Unemployment [2]

The nonmetropolitan jobless rate exceeded that in metropolitan areas—for all civilian workers and for both adult men and women. However, there was virtually no interarea difference in the rates for teenagers.

TABLE 4.—AGE, SEX, AND UNEMPLOYMENT

	Metro	Nonmetro
All workers	6.8	8.0
Both sexes, 16 to 19 years	17.3	17.5
Men, 20 years and over	5.4	6.2
Women, 20 years and over	6.6	8.5
Full-time workers	6.4	7.7
Part-time workers	9.7	10.2

The pattern of higher nonmetropolitan rates prevailed for all adult age-sex groups except for workers aged 65 and over (see Appendix Table A-2).

For full-time workers, the interarea difference in unemployment rates was similar to that for all workers. However, there was little difference between areas in the part-time rates. The higher nonmetropolitan rate for full-time workers was attributable to adults, particularly adult women. In contrast, unemployment rates for adults in the part-time labor force were virtually identical in both metropolitan and nonmetropolitan areas, while for teenagers the nonmetropolitan rate of part-time workers exceeded that in metropolitan areas (see Appendix Table A-6).

The employment-population ratio (the proportion of the population that is employed) in nonmetropolitan areas was well below that in metropolitan areas. As was true for unemployment rates, the interarea differences were marked for adults and negligible for teenagers. The lower employment-population ratios for adults in nonmetropolitan areas reflect both lower ratios for individual age-sex groups and the greater concentration of persons 65 years of age and over, who have very low ratios (see Appendix Table A-3).

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[2] The labor market findings in this section are based on third quarter 1985 averages, not seasonally adjusted. The impact of seasonality on these estimates is unknown but could be considerable, particularly for the nonmetropolitan areas.

TABLE 5.—PERCENT EMPLOYED

	Metro	Nonmetro
All workers (percent)	61.9	56.9
Both sexes, 16 to 19 years	50.2	51.2
Men, 20 years and over	75.3	69.9
Women, 20 years and over	51.9	46.3

In addition to experiencing a higher unemployment rate, nonmetropolitan areas had a higher incidence of persons employed part-time for economic reasons. Persons who wanted full-time work but were working part time involuntarily accounted for about 7 percent of nonmetropolitan employment, compared with 5 percent of metropolitan employment. The proportions employed part time voluntarily were similar in both areas (see Appendix Table A-6).

Occupation

Workers in nonmetropolitan labor markets were concentrated in the manual occupations, including farming, while the office occupations were much more prevalent in metropolitan areas. The proportion employed in farming, forestry, and fishing occupations was more than four times greater in nonmetropolitan than in metropolitan areas. A disproportionately large share of nonmetropolitan employment was also evident among medium and low-skilled operators, fabricators, and laborers.

TABLE 6.—OCCUPATIONS

	Metro	Nonmetro
Total (percent)	100.0	100.0
Managerial & professional	25.4	17.1
Technical, sales, & administrative support	32.7	24.1
Service occupations	13.2	14.5
Precision, production, craft, & repair	12.2	14.0
Operators, fabricators, & laborers	14.4	21.0
Farming, forestry, & fishing	2.1	9.3

In contrast, the proportion of nonmetropolitan workers in the most skilled and highly paid managerial and professional jobs was only two-thirds of that in metropolitan areas. Similarly, technical, sales, and administrative support jobs represented a much smaller proportion of employment in nonmetropolitan areas.

Industry

The goods-producing industries accounted for large shares of nonmetropolitan wage and salary employment, while the service-producing sector was a much greater source of employment in metropolitan areas. Wage and salary workers in agriculture and mining together made up about 5.5 percent of nonmetropolitan employment but only 1.5 percent in metropolitan areas (see Appendix Table A-5).

TABLE 7.—INDUSTRY

	Metro	Nonmetro
Total (percent)	100.0	100.0
Private wage & salary workers:		
Good-producing	25.1	30.5
Service-producing	52.8	40.2
Government workers	14.2	15.0
Self-employed workers	7.5	13.1
Unpaid family workers	.3	1.0

The incidence of self-employment was considerably higher in nonmetropolitan areas. This was largely because of the prevalence of agriculture in these areas, as a very high proportion of farmers operate their own farms, but there was a greater proportion of self-employed persons in nonfarm industries as well. Relatively few persons worked without pay in family farms or businesses in either area, but this practice was more common in nonmetropolitan areas.

EMPLOYMENT PROBLEMS AND ECONOMIC STATUS DURING CALENDER YEAR 1984

This section presents information on the employment and earnings experience of metropolitan and nonmetropolitan area residents during 1984.[3] It focuses on three types of labor market problems: unemployment, part-time employment of persons who wanted to work full time, and low earnings for people who worked full-time all year. Also, family income data are included, which makes it possible to identify persons below the poverty level. These data are available on a metropolitan/nonmetropolitan basis for all but about 6.5 percent of the population. In the latter cases, the CPS sample was too small to meet the Census Bureau's confidentiality requirement for release of data, such that residence identifiers were suppressed.

The incidence of unemployment during 1984 was a little higher in nonmetropolitan than in metropolitan labor markets. Among persons who experienced unemployment, the percent living in families below the poverty line was also slightly higher in nonmetropolitan areas.

TABLE 8.—UNEMPLOYMENT AND POVERTY

	Metro	Nonmetro
Persons with unemployment:		
Number (in thousands)	13,701	6,371

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[3] Data discussed in this section were obtained from the March 1985 supplement to the CPS. The metropolitan/nonmetropolitan definitions are those put in place after the 1970 census, not the new post-1980 census definitions. Special tabulations of these data for 1982 to 1984 can be made available upon request.

TABLE 8.—UNEMPLOYMENT AND POVERTY—Continued

	Metro	Nonmetro
Percent of persons in labor force	16.6	19.2
Percent below poverty line	21.4	24.3

In addition to a higher year-around incidence of unemployment, a larger percentage of persons in nonmetropolitan than in metropolitan areas who wanted full-time work were forced to work part-time at some point during 1984. Of those who experienced involuntary part-time employment, the percentage below the poverty line was slightly higher in nonmetropolitan than in metropolitan areas.

TABLE 9.—INVOLUNTARY PART-TIME EMPLOYMENT

	Metro	Nonmetro
Persons with involuntary part-time employment:		
Number (in thousands)	8,513	4,767
Percent of part-time workers	31.1	36.3
Percent below poverty line	17.1	19.0

The percentage of persons who worked full-time all year but had low earnings (under $6,700) was twice as high in nonmetropolitan areas as in metropolitan areas. However, only a slightly larger proportion of low earners in nonmetropolitan areas lived in families below the poverty line than was the case in metropolitan areas.

TABLE 10.—LOW EARNERS

	Metro	Nonmetro
Low earners:		
Number (in thousands)	4,492	2,355
Percent of year-around full-time workers	4.9	9.9
Percent below poverty line	29.9	31.9

EMPLOYMENT AND UNEMPLOYMENT IN STATES AND REGIONS FOR URBAN/RURAL COUNTIES

Summary labor market information (employment, unemployment, and the unemployment rate) is available for all counties in the United States and for larger geographic entities, such as metropolitan areas, States, regions, etc. Special tabulations of the 1984 annual data have been prepared utilizing a U.S. Department of Agriculture classification which ranks counties according to their degree of rurality.[4] This rural/urban continuum scores each of the more than 3,000 U.S. counties from 0 (most urban) to 9 (most rural) based on their population density and whether or not they are adjacent to a metropolitan area.

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[4] These tabulations and the Agriculture Department codes can be made available upon request. The codes utilize 1980 census geographic definitions and 1983 metropolitan/nonmetropolitan area designations.

The data summarized below pertain to counties coded 6 to 9, which means that they had urban populations of less than 20,000 (counties coded 8 and 9 had no urban population). This definition was selected in order to focus on the employment situation in the most rural U.S. counties. The U.S. labor force in rural counties using codes 6 to 9 totaled 16.6 million in 1984. In contrast, under the nonmetropolitan definition (codes 4 to 9), the labor force was 24.8 million in 1984. It is important to note, however, that unemployment rates for the entire United States and major regions of the country were virtually the same whether the counties were coded 4 to 9 or 6 to 9.

The rural population is heavily concentrated in the South and the Midwest (especially the West North Central States). In both of these regions, slightly over one-fifth of the 1980 populations lived in rural counties. In contrast, rural counties accounted for only about one-twentieth of the population in the Northeast and one-twelfth of that in the West. The tabulation below shows that the rural labor force was concentrated heavily in the Midwest and South.

TABLE 11.—LABOR FORCE

	Urban	Rural
U.S. labor force (in millions)	98.9	16.6
Percent	100.0	100.0
Northeast	23.6	6.6
Midwest	23.7	35.2
South	31.1	47.7
West	21.6	10.8

The rural unemployment rate in 1984 was higher than the urban rate for the United States as a whole and in each of the four regions. The urban/rural difference in jobless rates was smallest in the Midwest, primarily because of the high incidence of urban unemployment in the heavily industrialized East North Central States. The greatest urban/rural jobless rate difference occurred in the South.

TABLE 12.—UNEMPLOYMENT BY REGIONS

	Urban	Rural
U.S. unemployment rate	7.2	9.2
Northeast	6.8	8.4
Midwest	8.3	8.8
South	6.7	9.5
West	7.4	9.4

EMPLOYMENT AND WAGES OF WORKERS IN URBAN/RURAL COUNTIES

Employment and wage data are available at the county level and for larger geographic areas as a by-product of the Unemployment Insurance (UI) system. In this section, geographic classification is based on the place of work, whereas data in the previous sections were based on the place of residence. Employment in UI-covered firms accounted for about 90 percent of total U.S. employment in 1984. Major groups excluded from UI coverage include workers on small farms, railroad employees, some government and nonprofit organization employees, as well as domestic workers, self-employed persons, and unpaid family workers. Employment and annual wage data for 1984 were tabulated for the total United States and by State, using the U.S. Department of Agriculture rural/urban codes discussed in the preceding section. The rural counties were again defined as those having urban populations of less than 20,000 (codes 6 to 9).[5] A small number of UI reporters could not be classified by county and therefore were excluded from the rural/urban tabulations.

Almost 9 out 10 workers covered under the UI system worked in counties classified as urban in 1984. The annual pay of these workers on urban payrolls exceeded that for workers in rural counties by about $4,200, or almost 30 percent.

TABLE 13.—PAY

	Urban	Rural
Employment (in thousands)	81,282	10,034
Average annual pay	$18,789	$14,545

UI-covered employment in rural counties was more heavily concentrated in the goods-producing industries, particularly mining, agriculture, and manufacturing. In urban counties, workers were more likely to be employed in the service-producing sector and especially in the services and finance, insurance, and real estate divisions.

TABLE 14.—INDUSTRY (UI)

	Urban	Rural
Total, all industries	100.0	100.0
Agriculture, forestry, and fisheries	1.2	2.0
Mining	.8	3.3
Construction	4.8	4.9
Manufacturing	20.5	26.2
Transportation and public utilities	6.5	5.5
Wholesale trade	5.9	4.4
Retail trade	18.0	17.0
Finance, insurance, and real estate	6.4	3.6
Services	30.1	26.6
Public administration	5.8	6.4

CONCLUSION

Labor market information from four different data bases was evaluated and summarized in this study. Even with major differences in coverage, definitions, and timing, results from each source indicate that the employment and income situation is weaker in nonmetropolitan than in metropolitan areas. The greater prevalence of labor market problems in nonmetropolitan areas was evident in measures of total employment, unemployment, earnings, and involuntary part-time employment. Also, nonmetropolitan area workers were more likely to be employed in the highly cyclical goods-producing industries and manual occupations, which have shown much slower growth than service-related industries during the current economic recovery.

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[5] These special tabulations can be made available upon request.

Data presented in this study clearly show that employment-related economic distress is more common in nonmetropolitan than in metropolitan areas. At best, however, available data permit only a superficial and general description of labor market problems in nonmetropolitan areas. As was indicated in the introduction, rural or nonmetropolitan labor force statistics are not available with the precision and geographic detail needed by policymakers and researchers. Moreover, there may be conceptual and/or definitional problems in applying national labor market measures to the nonmetropolitan population.

APPENDIX A

DATA FROM THE CURRENT POPULATION SURVEY

A-1.—DEMOGRAPHIC AND LABOR FORCE CHARACTERISTICS OF THE CIVILIAN NONINSTITUTIONAL POPULATION BY PLACE OF RESIDENCE, THIRD QUARTER 1985

Characteristic	U.S. total	Urban	Rural	Metro	Nonmetro	Nonmetro	
						Urban	Rural
Population 16 years and over (in thousands)	178,414	131,200	47,213	137,886	40,527	14,350	26,177
Percent:							
White	86.2	83.9	92.7	85.1	90.1	88.3	91.1
Black	11.0	12.9	6.0	11.8	8.3	9.9	7.5
Hispanic	6.5	8.1	2.0	7.7	2.2	4.0	1.3
Male	47.4	46.8	49.0	47.4	47.4	45.4	48.6
Female	52.6	53.2	51.0	52.6	52.5	54.6	51.4
16 years and over	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 19 years	8.0	8.0	8.5	8.1	8.2	8.2	8.3
20 to 24 years	11.2	11.8	9.5	11.5	10.2	11.7	9.3
25 to 34 years	22.9	23.3	21.6	23.5	20.8	21.1	20.7
35 to 44 years	17.6	17.2	18.8	17.9	16.6	14.8	17.7
45 to 54 years	12.6	12.2	13.5	12.6	12.4	11.3	13.0
55 to 64 years	12.4	12.3	12.6	12.1	13.3	13.3	13.3
65 years and over	15.2	15.1	15.5	14.2	18.4	19.5	17.8
Unemployment rate	7.1	7.2	6.8	6.8	8.0	9.1	7.5
Employment-population ratio	60.8	61.0	60.2	61.9	56.9	56.3	57.3

A-2.—UNEMPLOYMENT RATES BY AGE AND SEX, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985

	United States	Metro	Nonmetro
Total, 16 years and over	7.1	6.8	8.0
Both sexes, 16 to 19 years	17.3	17.3	17.5
Men, 20 years and over	5.6	5.4	6.2
Women, 20 years and over	7.0	6.6	8.5

A-2.—UNEMPLOYMENT RATES BY AGE AND SEX, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985—Continued

	United States	Metro	Nonmetro
Men:			
20 to 24 years	10.2	9.6	12.4
25 to 34 years	6.1	5.9	6.6
35 to 44 years	4.4	4.3	4.9
45 to 54 years	4.2	4.0	5.0
55 to 64 years	4.0	3.9	4.3
65 years and over	2.7	3.2	1.6
Women:			
20 to 24 years	11.0	10.3	14.1
25 to 34 years	7.9	7.3	10.2
35 to 44 years	5.9	5.7	6.9
45 to 54 years	4.9	4.6	5.7
55 to 64 years	4.6	4.4	5.0
65 years and over	3.7	3.9	3.3

A-3.—EMPLOYMENT-POPULATION RATIOS BY AGE AND SEX, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985

	United States	Metro	Nonmetro
Total, 16 years and over	60.8	61.9	56.9
Both sexes 16 to 19 years	50.4	50.2	51.2
Men, 20 years and over	74.1	75.3	69.9
Women, 20 years and over	50.6	51.9	46.3
Men:			
20 to 24 years	78.5	78.6	78.3
25 to 34 years	89.3	89.4	88.6
35 to 44 years	90.9	91.3	89.5
45 to 54 years	87.2	88.1	83.9
55 to 64 years	65.2	66.3	61.9
65 years and over	15.4	15.3	15.6
Women:			
20 to 24 years	65.1	66.1	61.2
25 to 34 years	65.2	66.2	61.3
35 to 44 years	66.8	66.9	66.2
45 to 54 years	60.6	61.0	58.9
55 to 64 years	39.7	40.7	36.5
65 years and over	6.8	6.8	6.9

A-4.—EMPLOYMENT BY OCCUPATION, UNITED STATES AND METROPOLIITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985

Occupation	United States	Metro	Nonmetro
Total (in thousands)	108,450	85,374	23,077
Percent	100.0	100.0	100.0
Managerial and professional specialty	23.6	25.4	17.1
Executive, administrative, and managerial	11.4	12.3	8.0
Professional specialty	12.3	13.1	9.1
Technical, sales, and administrative support	30.8	32.7	24.1
Technicians and related support	3.1	3.3	2.1
Sales occupations	11.7	12.1	10.3
Administrative support, including clerical	16.0	17.2	11.7
Service occupations	13.4	13.2	14.5
Private household	.9	.9	1.2
Protective service	1.6	1.7	1.3
Service, except private household and protective	10.9	10.6	11.9

A.-4.—EMPLOYMENT BY OCCUPATION, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985—Continued

Occupation	United States	Metro	Nonmetro
Precision production, craft, and repair	12.6	12.2	14.0
Mechanics and repairer	4.2	4.1	4.7
Construction trades	4.6	4.5	5.0
Other precision production, craft, and repair	3.8	3.7	4.3
Operators, fabricators, and laborers	15.8	14.4	21.0
Machine operators, assemblers, and inspectors	7.3	6.5	10.1
Transportation and material moving occupations	4.2	3.8	5.8
Handlers, equipment cleaners, helpers, and laborers	4.3	4.1	5.1
Farming, forestry, and fishing	3.7	2.1	9.3

A-5.—EMPLOYMENT BY CLASS OF WORKER AND INDUSTRY, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985

Class of worker, industry	United States	Metro	Nonmetro
Total (in thousands)	108,450	85,374	23,077
Percent	100.0	100.0	100.0
Private wage and salary workers	76.4	78.0	70.8
Goods-producing	26.3	25.1	30.5
Agriculture	1.6	1.0	3.5
Mining	.9	.6	1.9
Construction	5.1	5.1	4.9
Manufacturing	18.8	18.4	20.2
Service-producing	50.1	52.8	40.2
Transportation, and public utilities	5.4	5.7	4.3
Wholesale trade	3.8	4.0	2.9
Retail trade	15.1	15.2	14.6
Finance insurance and real estate	5.9	6.6	3.3
Services	20.0	21.3	15.1
Government	14.4	14.2	15.0
Self-employed	8.7	7.5	13.1
Agriculture	1.4	.7	4.3
Nonagricultural industries	7.3	6.8	8.8
Unpaid family workers	.5	.3	1.0

A-6. FULL- AND PART-TIME STATUS, UNITED STATES AND METROPOLITAN AND NONMETROPOLITAN AREAS, THIRD QUARTER 1985

	United States	Metro	Nonmetro
Total Employed (in thousands)	108,450	85,374	23,077
Percent on:			
Full-time schedules	82.0	82.4	80.1
Economic part-time	5.5	5.0	7.1
Voluntary part-time	12.6	12.5	12.8
Unemployment rates:			
All full-time workers	6.7	6.4	7.7
Both sexes, 16–19 years	16.3	16.6	15.6
Men, 20 years and over	5.5	5.3	6.2
Women, 20 years and over	7.0	6.5	8.8
All part-time workers	9.8	9.7	10.2
Both sexes, 16–19 years	18.9	18.3	21.5
Men, 20 years and over	7.5	7.5	7.6
Women, 20 years and over	7.1	7.0	7.2

APPENDIX B

LISTING OF SPECIAL TABULATIONS

Section III.—Employment Problems and Economic Status of Metropolitan and Nonmetropolitan area residents 1982 to 84

14. Incidence of unemployment among persons with labor force experience and percent in poverty families, by sex, race, Hispanic origin, and marital and family status.

15. Incidence of involuntary part-time employment among persons working part time and percent in poverty families by same characteristics as in Appendix A, Table 14.

16. Incidence of low earnings among year-round full-time workers and percent in poverty families by same characteristics as in Appendix A, Table 14.

Section IV.—Local Area Unemployment Statistics, 1984

1. Employment status of the U.S. and regions by urban/rural counties, as designated by USDA codes.

2. Employment status for States by urban/rural counties, as designated by USDA codes.

3. Employment status by State for individual rural counties, as designated by USDA codes 6 to 9.

Section V.—Employment and Wage Data from UI, 1984

1. Employment and annual pay for the U.S. and States by urban/rural counties, as designated by USDA codes.

2. Employment by industry for the U.S. and urban/rural counties, as designated by USDA codes.

TWO SIDES OF THE SUNBELT: ECONOMIC DEVELOPMENT IN THE RURAL AND URBAN SOUTH *

By Thomas A. Lyson and William W. Falk

Fifty years ago the quality of life in the 13 states of the Old South was judged to be among the lowest in the country. A lack of industrial development in the region at that time and the pervasiveness of a tenant system of agricultural production combined to keep the South mired in the backwaters of the American economy. Over the past five decades, however, the South in general, and the rural South in particular, have moved to the forefront as centers for economic growth and industrial development. At the same time, hundreds of millions of dollars have been spent on manpower development programs. Yet the New South still lags far behind the rest of the Nation on virtually all quality of life indicators.

As social historian James Cobb has recently shown, from the mid-1930's on, southern leaders have aggressively worked to expand end diversify the region's economic base.[1] In Cobb's terms, the South has been "sold" in much the same way as any other product is marketed. The salesmen have included southern governors, State development boards, local chambers of commerce, and assorted industrial front men. All have sung the virtues of southern industrial development to U.S. and foreign investors. In a world guided by business maxims, where profit is the overarching principle to social and economic life, southern boosters found that their product, the South, sold best when it was packaged as a place where labor was abundant and cheap, where unions were not welcome, and where local communities were willing to offer a plethora of financial inducements to attract new industry.

Our general sense of the explosion in growth across the South is that it has taken very different forms in different locales. The South is often portrayed in the popular media as a land of undifferentiated growth and opportunity. Blacks and whites, natives and in-migrants, and rural residents and urban residents are all implicitly assumed to be the beneficiaries of the economic growth and development brought about by the industrial policies of the Sunbelt states. Indeed, looking only at aggregate statistics for the region, one is left with the impression that the "New South" is truly a land of bountiful economic opportunity.

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[1] James Cobb, *The Selling of the South: The Southern Crusade for Industrial Development, 1936-1980* (Baton Rouge, LA: Louisiana State University Press, 1982). James C. Cobb, *Industrialization and Southern Society.* (Lexington, KY: University of Kentucky Press, 1984) p. 136.

Just below the veneer of aggregate data, however, there lurks a somewhat less rosy picture. The South of the popular press is neither as socially nor economically homogeneous as it is made out to be. A closer look at the Sunbelt reveals a region checkered with pockets of slow growth, stagnation, and poverty in addition to the ballyhooed urban growth areas. In other words, economic opportunities and labor force characteristics vary as much *within* the region as between the Sunbelt and the declining industrial areas of the North.

We believe that a large measure of the industrial and occupational variation within the South is due to rural-urban differences in patterns of development. Consequently, the rural-urban dimension is critical not only to understanding structural changes in the southern economy, but also for designing and implementing policies to assist lagging areas in their development efforts. From both an analytical and policy standpoint then, it is useful to partition the South along a rural-urban continuum.

In some of our own research which we will summarize below, we have found it useful to divide the South into four county groups based upon two salient demographic characteristics: 1) the size of the urban population; and 2) the proportion of black residents in the county (Map 1). From this perspective, our first group consists of counties that are part of large metropolitan areas in the region. Prior to 1980, the Census referred to these counties as being part of a Standard Metropolitan Statistical Area (SMSA). Since 1980, the term has been shortened to simply Metropolitan Statistical Area (MSA).

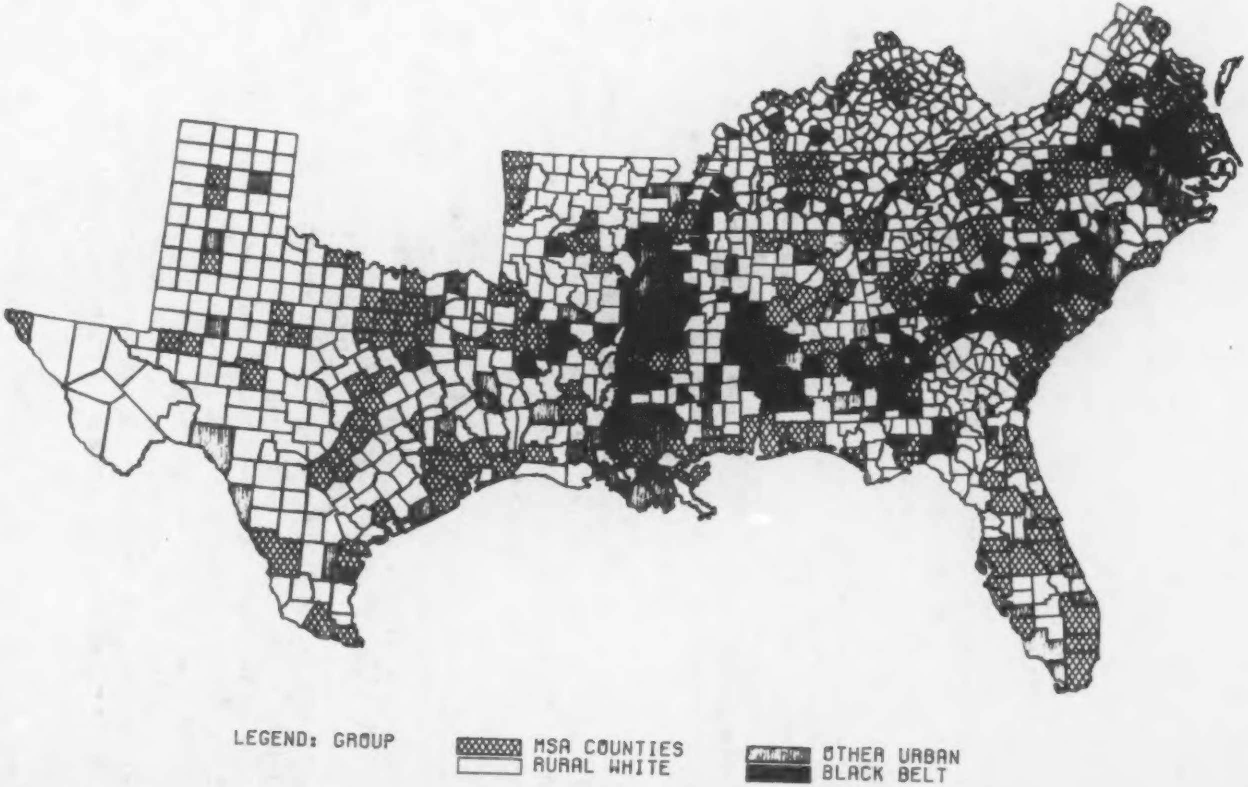
Our second set of counties, which we refer to as "Other Urban" counties, are those that contain at least 20,000 urban residents, but are not part of a large metropolitan area.

The third grouping consists of predominantly rural counties (i.e., counties that have less than 20,000 urban residents) that do not contain large numbers of black residents. We call these "Rural White" counties.

And finally, we have identified predominantly rural counties that have relatively large black populations (i.e., 40 percent or more black). We label these "Black Belt" counties. A thumbnail description of the industrial and occupational trends within each group will set the stage for our concluding remarks about the role of the rural South in a national industrial policy.

MAP 1

COUNTY GROUPS IN THE SOUTH


LEGEND: GROUP
▨ MSA COUNTIES
☐ RURAL WHITE
▤ OTHER URBAN
■ BLACK BELT

MSA COUNTIES: STARS OF THE SUNBELT

The large metropolitan centers of the region such as Atlanta, Houston, and Miami, personify the popular sunbelt image as a region awash in economic growth and opportunity. The occupational and industrial make-up of the major cities in the South are not unlike those found in the urban centers of the North. These "Stars of the Sunbelt" serve as communication and transportation hubs for the region. Their economies are built upon a foundation of trade and service industries as well as newly emerging manufacturing enterprises and their occupational structures are becoming increasingly dominated by a wide array of white collar and service worker positions. Not surprisingly, virtually all of the region's high-technology employment is found in and around the MSA's.

The MSA counties, however, are not without their own economic problems. The occupational structure is segregated along race and sex lines, with women and blacks concentrated in the least desirable jobs. A rapid expansion of employment in the trade and service industries since 1970 has resulted in a proliferation of low wage and skill positions. And many sunbelt cities contain a plethora of the aging industrial giants that are commonly associated with cities in the frostbelt.

However, the social and economic problems confronting southern cities are not unique to the region. Rather, they are issues that confront all cities in the U.S. And solutions to these problems must be addressed at a national rather than regional level.

OTHER URBAN COUNTIES: BLENDING MANUFACTURING WITH SERVICE

The industrial and occupational structures found in the smaller urban areas of the South represent an interesting blend of the new South, as typified in the MSA's, and the industrial backwaters that characterize many rural areas of the region. Like their MSA counterparts, the Other Urban counties have seen their trade and service sectors expand dramatically in recent years. At the same time, however, the industrial structure continues to rest heavily upon durable and nondurable manufacturing enterprises. Two of the largest 10 industries, for example, are apparel manufacturers and another manufacturing industry (fabricated metals) was one of the 10 fastest growing industries between 1977 and 1981.

The occupational structure reflects the job opportunities associated with an economy in transition. There are large numbers of service worker and white collar jobs (i.e., janitors, cashiers, and sales clerks) in the Other Urban counties and these positions are expanding rapidly. On the other hand, many Other Urban Workers hold manufacturing jobs. Machine operative and production supervisor, for example, are highly populated occupational titles. Discerning an economic future for these counties is difficult. It is hard to imagine the smaller urban places in the South attracting many truly high-tech firms. They lack most of the educational and cultural amenities that high-tech employers and employees find attractive. At the same time, much of the manufacturing base in these places is becoming increasingly vulnerable to Third World competition.

With the recent improvement in transportation and communication lines, we suspect that the Other Urban counties will continue to be attractive locations for a variety of intermediate assembly plants and heavy manufacturing enterprises. Firms that do not require large numbers of technically sophisticated and highly educated workers, but that do need large numbers of operative and less skilled blue collar labor should continue to move into these areas.

Further, in more remote areas of the Sunbelt where coal mining and oil drilling dominate the economy, small urban places can thrive as key service and distribution points for these industries. Similarly, as production agriculture becomes increasingly concentrated throughout the South, some of the Other Urban counties will become important agricultural service centers. In short, we see a continued growth in both service related and manufacturing job opportunities in the Other Urban counties.

RURAL WHITE COUNTIES: A HETEROGENEOUS GROUP

Of our four groups of counties, none is more internally heterogeneous than the Rural White group. Because of their wide dispersion across the Sunbelt, the economic base of these counties rests on an amalgamation of textile and apparel manufacturers in the Southeast, coal mining in Appalachia, and oil and gas production in the Southwest. Agriculture also plays an important role in the Rural White counties across the region. Unlike the more urban county groups, Rural White counties contain considerably smaller service and trade sectors.

From an occupational standpoint, the modal occupational category in the Rural White areas is operative. Over 180,000 new operative positions were created in these counties between 1970 and 1980. This means that, on average, every Rural White county in the South experienced an increase of 263 new operative jobs during the decade. And by 1980, each Rural White county contained an average of over 1,400 operative workers.

Taken together, the Rural White counties are in a vulnerable economic position today. Very recent trends show that many of the manufacturing industries that moved into the rural South to take advantage of the abundant and low wage labor supply are now shifting their production overseas. In many areas manufacturing employment is decreasing at an alarming rate. Like the Other Urban counties, Rural White areas have little chance of attracting very much of the growth in high-tech employment. And although service sector growth is predicted to be a major source of job growth in the region, most of this employment will cluster near population centers. Some Rural White counties fortunate enough to be vacation spots can probably expect to continue to flourish. The economic prospects for most Rural White areas, however, remain more problematic.

BLACK BELT COUNTIES: STILL MIRED IN THE BACKWATERS OF THE SUNBELT

In stark contrast to the other county groups, the Black Belt counties in 1986 remain saddled with an economic base dominated almost entirely by slow growing, stagnating, and declining industries. It is most telling that 6 of the 10 largest Black Belt industries are in manufacturing, while 5 of the fastest growing industries are also in the manufacturing sector.

As might be expected, given a heavy reliance on manufacturing, most occupational opportunities in the Black Belt are at the low wage, low skill end of the job ladder. And when the race and sex characteristics of the labor force are factored in, we find that blacks and women are most concentrated in the least favorable positions. Any economic benefits brought about through the influx of peripheral industries into these counties have been disproportionately captured by the white male population.

If there is any place in the Sunbelt that faces a precarious economic future, it is the Black Belt. To understand the challenge the Black Belt faces, one need only look at employment projections and the types of industries that are expected to grow and decline. According to the Southern Growth Policies Board, the poorest performance is expected in standardized manufacturing industries such as textiles, apparel, and electronics.[2] And as more and more firms in these industries shift their production to Third World countries, the industrial pipeline that once filtered these standardized production facilities from the industrialized North into the Black Belt might find it more advantageous to simply by-pass the rural South entirely. In fact, one need only look at the large number of American corporations that have already built plants (maquiladoras) along the U.S.-Mexican border to understand the jeopardy the Black Belt faces. By 1984, American firms employed 180,000 workers in over 600 maquiladoras and paid them an average wage of $1.10/hour including benefits.[3]

The limitations of the State and local industrial policies that have guided economic development in the rural South and the dilemma now facing the Black Belt counties today was neatly summarized by Stuart A. Rosenfeld, Director of Research and Programs for the Southern Growth Policy Board, when he stated:

> . . . rural communities, which have been primed for 1960's-style growth, with waste disposal systems, roads, industrial parks, and vocational-technical centers, now find themselves facing a new 1980's-style growth. Just as they began to catch up, the ground rules have changed. A skilled work force, strong schools, and extensive communications links have been added to the list of factors needed to sustain growth.[4]

In the near term, at least, the economic prospects for the Black Belt counties do not appear promising.

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[2] Stuart A. Rosenfeld, "Prospects for Economic Growth in the Nonmetropolitan South," USGPB Alert, Research Triangle Park, NC, 1983, p. 4.

[3] Time, September 10, 1984, p. 36. See also, Jorge A. Bustamante, Maquiladoras: A New Face of International Capitalism on Mexico's Northern Frontier. Pp. 224-256 in J. Nash, M. P. Fernandez-Kelly, Women, Men and the International Division of Labor (Albany, NY: State University of New York Press, 1983).

[4] Rosenfeld, "Prospects for Economic Growth in the Nonmetropolitan South," p. 4.

THE RURAL SOUTH AND A NATIONAL INDUSTRIAL POLICY

We are sympathetic with those individuals who recognize that the Federal Government has an important and positive role to play in strengthening America's position in the world economy.[5] We believe, however, that the current debate over a national industrial policy has been decidedly urban in tone and content. In the early 1980's, stories in the national media about layoffs in the auto plants of Detroit and the shutdown of steel mills in Youngstown and Pittsburgh were both symbolic and symptomatic of the deteriorating muscle of the American economy. The decline and deterioration in the economy, however, was not solely confined to northern cities. Many rural counties and small towns in the South, especially those with heavy concentrations of mining and manufacturing activities were left reeling with 20 to 30 percent unemployment during the most recent recession. But because the workers and places affected were relatively isolated, they received far less attention from the national media.

The rural South, in particular, has a great deal to gain or lose in the current debate over a national industrial policy. In the 1970's rural areas in the Sunbelt experienced a tremendous influx of manufacturing employment. In fact, over 80 percent of southern manufacturing growth took place in nonmetropolitan areas. Moreover, much of this growth has been attributed to the establishment of branch plants of large northern corporations.

The industrial fabric of the rural South, as we have already discussed, is quite different from that found in the region's metropolitan areas. Urban areas are home to a wide range of emerging and growing, as well as declining businesses. Cities tend to be the spawning ground for new and innovative ventures where scientific and engineering skills are the critical human input. Additionally, manufacturing enterprises that require large amounts of well-educated, highly skilled labor find abundant talent in southern cities. Many cities in the region, Atlanta and Birmingham for example, are also home to the Nation's aging industrial giants. In the vernacular of some industrial policy advocates, these cities contain both the "winners" (or sunrise ventures) as well as the losers" (or sunset industries) of the new industrial order.

As we have already noted, rural communities have traditionally attracted less dynamic and innovative businesses, those whose glory days are long past and who now manufacture their products in long, routine runs. For these plants, cheap, low skilled labor is the key human input. Robert Reich, a leading industrial policy proponent, calls these "high volume standardized production facilities" and notes that they can be established anywhere in the world. Not surprisingly, the products manufactured in these plants (textiles, apparel, electronic parts) have proven to be the most vulnerable to imports from the Third World. And few truly rural places in the South have been able to attract the fast-growth, high-tech "winners" that some industrial policy proponents see as the future of the American economy.

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[5] This approach to a national industrial policy has been articulated in numerous articles and books. Some of the more notable include: Felix Rohatyn, "Reconstructing America," *The New York Review of Books*, Feb. 5, 1981; Robert B. Reich, "Why the U.S. Needs an Industrial Policy," *Harvard Business Review*, January-February, 1983, Robert Reich, "Making Industrial Policy," *Foreign Affairs*, spring, 1982. "Industrial Policy: Is it the Answer?" *Business Week*, July 4, 1983.

At present, many traditionally rural industries in the South such as textiles and apparel are being propped-up by protectionist measures such as quotas, tariffs, and voluntary trade restrictions. While such measures are often enacted in response to pressures brought by state and local politicians and assure the short-term survival of these ventures, they do nothing to enhance America's competitive position in the world economy or to ensure the long-term survival of jobs and communities that are dependent upon that industry. And as Reich noted, they have unfavorable impacts on other sectors of the economy by raising the price of inputs other industries need for survival.

We believe that the deteriorating competitive position of many American products at home and abroad and the need to preserve communities and jobs makes a national industrial policy both necessary and inevitable. Implementing a policy aimed at assisting so-called sunrise industries, while "easing-out" businesses that have lost their competitive edge, however, may have grave consequences for rural workers in the South. This is to say that these workers must not be the unwilling victims of an urban oriented industrial policy strategy. It is imperative, therefore, that any discussion about restructuring the Nation's economy must take into account the existing industrial make-up of the rural South and the forces that have lead to a proliferation of low wage, low skilled jobs in a region that has been called the "backwaters of the American economy."

IV. AGRICULTURE

MONETARY-FISCAL POLICY LINKAGES TO AGRICULTURE AND THE RURAL ECONOMY*

By Luther Tweeten **

The impact of macroeconomic policy has been the most dramatic development in American agriculture in the past decade, From after the Civil War to the Great Depression, agriculture and the rural economy experienced periodic buffeting by business cycles. Since the Great Depression, economic cycles trace increasingly to public policy. That is, jolts to agriculture from economic cycles are more the result of public decisions rather than of private business decisions. At issue is what macroeconomic policy has done to the economy and how can such policy be improved.

This chapter has two objectives. One is to review the impact of macroeconomic policy on agriculture; the other is to examine briefly the root cause and required cure for macroeconomic policy decisions that have abused American agriculture in the 1980's. I separate macroeconomic impacts into cost-price stress, cash-flow stress, debt stress, and demand stress in the following sections. Cost-price stress and cash-flow stress were largely products of erratic and overly expansionary monetary policy in the 1970's. Debt stress and demand stress are products of overly expansionary fiscal policy coupled with monetary restraint in the 1980's.

COST-PRICE STRESS IN THE 1970'S

If changes in the general price level always were associated with proportional changes in all prices, policies causing inflation or deflation would have little impact on agriculture.[1] But, all prices do not change in the same proportion, hence, changes in the general price level have different real economic impacts among sectors of the economy.

Researchers have used two approaches to measure the impact of monetary policy on agriculture. One is to relate money supply to variables of interest; the other is to relate inflation and deflation to the variables of interest. I prefer the latter approach because the relationship between money supply and farm industry variables is erratic and tenuous in the short run. Changes in the velocity of money and problems in measuring money supply obscure the relationship between farm prices and money supply in the short run. In the long run, because of a close relationship between money supply and inflation (or more generally, changes in the general price level), the two approaches tend to converge. The proposition that "inflation is always and everywhere a monetary phenomenon" makes sense only for the long run.

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* Professional paper of the Oklahoma Agricultural Experiment Station. Comments of David Henneberry and Daryll Ray are much appreciated.

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[1] Principal and interest also would have to be indexed to avoid real balance effects of general price level changes.

In theory, it is not possible to say *a priori* whether agriculture is made worse off or better off by a change in the general price level caused by a change in the money supply. Two opposing hypotheses have been advanced:

1. The first is that agriculture is one of the few flexible-price sectors of the economy where product prices are set competitively. Adjustments to supply or demand shocks are apparent more in price changes than in quantity changes. Holders of cash balances, enlarged by monetary expansion, convert excess balances into real goods and services. This creates excess demand which raises prices most quickly in flex-price sectors characterized by inelastic supply. Most sectors of the economy, including the farm input supply sector, are characterized by imperfect competition and sticky prices. In the non-flex price sectors, adjustments to economic conditions are made mostly by changing quantity placed on the market rather than by changing price. If this hypothesis holds, prices received by farmers react more than prices paid by farmers to changes in money supply. So deflation worsens terms of trade (ratio of prices received to prices paid) for farmers and inflation improves terms of trade for farmers because, under the latter, prices received by farmers increase faster than prices paid by farmers.
2. The opposing hypothesis is that the imperfectly competitive input supply sector passes higher prices along quickly to the next link in the marketing chain—farmers. Farmers, who are price takers, not price makers, cannot pass higher input prices along quickly because each farmer has no control over price. Hence, an expansion in the money supply increases prices paid by farmers more quickly than prices received by farmers. Inflation worsens terms of trade for farmers.

Empirical evidence indicates dominance of the second hypothesis (Tweeten, July 1983, pp. 61-64). Each 1 percent increase in the general price level increases prices paid by farmers about 1.5 percent in one year and prices received by farmers by 1.0 percent. It follows that the ratio of prices received to prices paid by farmers falls about 1.5 percent for each 1 percent increase in the general price level. The overreaction or overshoot to inflation or deflation is mostly offset the second year. Thus, inflation or deflation has no real impact on farm prices in the long run. Because the cost-price squeeze induced by changes in the general price level is short-lived, it contributes to instability but not to chronic low returns in farming.

CASH-FLOW STRESS IN THE 1970's

In the 1970's, high inflation created high nominal interest rates which, in turn, created cash-flow problems for investors. Farm debt per dollar of net farm income (including the household and after-inventory adjustment) increased from $2.31 in 1959 to $3.75 in 1979 to $5.71 in 1983 for the United States. Many observed the high and growing ratios of (a) land interest payments to rents, and (b) debt to earnings after interest and concluded that land was overpriced. Yet, real returns were highly favorable—much more favorable than on major alternative investments. Farmers were protesting in tractorcades in the 1970's, probably because cash flow was unfavorable. Such a paradox is not unexpected in an inflationary economy.

To understand why, it is well to review briefly the theory of land pricing. Farm real estate accounts for three-fourths of farm assets and contributes heavily to farm economic gains and losses. A key economic relationship underlying cash-flow problems of the 1970's and debt problems of the 1980's is expressed in the following formula (Tweeten, 1981):

$$(1)\ P_t = R_t/\ (b - i')$$

or rearranging terms

$$(2)\ (R_t/P_t) = b - i'$$

where P_t is land price per acre in year t, R_t is land earnings or rent, b is the desired or normal market real rate of return on investment in farmland (nominal return less the inflation rate), and i' is the expected real annual rate of increase in land earnings. If real land earnings are expected to keep pace with inflation so $i' = 0$, then the ratio of rent to land price in a well-functioning economy is a constant b. Let us make the following reasonably realistic assumptions for a well-functioning economy: Investors desire a real rate of return averaging the long-term historic rate of 4 percent, the nominal interest rate is a real interest rate of 4 percent plus the inflation rate, and land value increases at the same rate as rent.

With this background, Table 1 shows how cash-flow problems characterize an inflationary economy. The Table also shows how it is normal for debt-income ratios to rise in an inflationary economy such as the 1970's. Current rent (earnings) plus capital gain equals the mortgage interest with 100 percent debt, hence, there is no pure profit but a 4 percent real return with each inflation rate. All costs are covered by returns. With zero inflation, the current return covers the mortgage interest. Hence, there is no cash-flow deficit on a perpetual mortgage. With 12 percent inflation and full debt, however, a cash-flow problem is apparent—current rent falls short of the mortgage interest by $120. Capital gain makes up the difference, but the capital gain is realized only when land is sold. Four acres of rent are required at 12 percent inflation to pay the mortgage interest on one acre. Inflation raises immediate costs and defers returns. In theory, borrowers can service cash-flow by refinancing each year using capital gain as collateral. Lenders are reluctant to lend on paper profits, however.

TABLE 1.—INFLATION AND CASHFLOW

[Dollars per acre]

Assumed inflation rate (percent)	Land value	100 percent debt				25 percent debt		
		Mortgage interest	Rent	Capital gain	Total return	Mortgage interest	Income after interest	Debt-income ratio
0	1,000	40	40	0	40	10	30	8.33
4	1,000	80	40	40	80	20	20	12.50
8	1,000	120	40	80	120	30	10	25.00
12	1,000	160	40	120	160	40	0	Large

Now, assuming 75 percent equity, the rent, less mortgage interest, leaves a $30 "income" after interest and a debt-income ratio of $8.33 with no inflation. With 8 percent inflation, income after interest is $10 and the debt-income ratio is $25. Yet, the real rate of return remains 4 percent before income taxes in all inflation scenarios. In short, inflation creates cash-flow problems, although, not necessarily low real-return problems.

DEBT STRESS IN THE 1980's

Off-farm income and refinancing with collateral from capital gain helped owner-operators to weather cash-flow problems of the 1970's. The debt or financial stress problem of the 1980's has similarities to the cash-flow problem of the 1970's but differs in one very fundamental respect—the 1980's feature high *real* interest rates and not just nominal interest rates. High nominal and low real interest rates were associated with inflation which created capital gains benefiting farmers in the 1970's. High real interest rates are not offset by capital gains and, if following after lower real interest rates, are attended by real capital losses.

High real interest rates in the 1980's created two direct problems for farmers. One was high interest payments. Gross farm income held up rather well for the overall 1979 to 1983 period. Production expenses before interest displayed a mixed pattern of increases among states. But rising interest expenses between 1979 and 1983 and severely depressed net income after interest. In 1983, U.S. net farm income *before* interest was 85 percent of the unusually high 1979 nominal value. But 1983 net farm income *after* interest was less than half the 1979 value.

Asset values increased in most states from January 1, 1980 to January 1, 1984, but debts increased much more. Debt-asset ratios rose in most states. Ratios rose most in states with economies depending heavily on agriculture and on grain and soybean export markets.

Other explanations have been given for the sharp drop in farm asset values since 1980. A common contention is that investors bid speculatively on land in the late 1970's, driving prices to levels unwarranted by earning power of land in agricultural uses. Data for the states with the largest drop in land prices refute that hypothesis (Tweeten 1985a; 1985b). To be sure, some investors paid too much for land even based on information available in the late 1970's. But that was the exception, not the rule.

From the 1985 perspective, however, farmland was overpriced in 1980. What went wrong? The second direct problem stemming from high real interest rates is real wealth losses as explained below. Rents either increased or changed little from 1980 to 1984, hence, it was not expectations concerning real land earnings which went awry. Instead, it was the real discount rate which changed. The real interest rate on farm mortgages went from a long-term average of 3 percent, and a 1970's average of 0 percent to 8 percent in 1984. The latter rate was unprecedented. I know of no economist who anticipated it. As investors adjusted upward their desired real return on farmland to cover interest costs, land values fell. A doubling of real interest rates halved the value of farmland in a number of states.

DEMAND STRESS IN THE 1980'S

As noted earlier, land earnings mostly had retained their real levels to 1984, helping to avert an even sharper drop in asset value than actually occurred. But that conclusion fails to note the continuing decline in export market demand and the large role played by government in maintaining land earnings. Excess capacity, defined as production with normal weather in excess of what the market would absorb at existing prices, was 5 percent of output in 1984. Federal Treasury cost of approximately $15 billion per year was required to alleviate that excess capacity which exists at the will of government. Release of 5 percent excess capacity on the market would depress prices approximately 20 percent and receipts 15 percent. Growing evidence suggests that more excess capacity will be released on the market to reduce government costs of programs in the later 1980's. Real farm prices and land earnings have fallen in 1985. Commodity prices and receipts may continue to fall, further reducing land earnings and prices in some states.

The fall in demand for farm output, largely from exports, has been more the result of macroeconomic policies than of trade policies. Large Federal deficits in a growing full-employment economy create heavy demand for money relative to the supply of money. Large demand for savings in the face of a relatively fixed domestic supply of savings bids up interest rates. The high-real interest rates attract dollars from abroad. This augments the supply of savings and constrains the rise in interest rates. But the strong foreign demand relative to supply of dollars drives up the value of the dollar in foreign exchange markets. The farm-trade weighted value of the dollar has increased approximately 30 percent in real terms since 1980.

Foreigners on average would face U.S. farm export prices 30 percent higher today than in 1980 even if the price to U.S. farmers had not changed. The result is incentives for foreign consumers to go elsewhere for supplies, and for foreign producers to produce more to realize higher prices and fill the demand. The dollar was overvalued by 40 percent in the Spring of 1985 according to some estimates (Bergsten, p. 19).[2] The dollar has fallen since, but the

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[2] This is not to deny that the dollar is not in short-term equilibrium. World financial markets are highly efficient and the dollar is not held high by speculation. But forces holding up the

Continued

dollar remains overvalued and U.S. exports are implicitly taxed up to 30 percent and imports subsidized up to 30 percent. The result is a loss in comparative advantage for U.S. farm products in world markets, excess capacity, depressed farm prices, and low farm income. High real interest rates have precipitated financial crisis in several developing countries, forcing them to cut back imports of U.S. farm products. Exodus of capital to the United States may have slowed domestic economic growth in foreign countries, especially in developed countries, further reducing their demand for U.S. farm exports.

THE ROLE OF SOUND MACROECONOMIC POLICY IN ALLEVIATING FARM PROBLEMS

Farm economic problems of the 1980's—debt stress, demand stress, and low commodity and land prices—trace largely to a common source: U.S. macroeconomic policy. Econometric estimates indicate that many of the current economic problems of agriculture would be alleviated with favorable macroeconomic policies, although time would be required to do so. Many farmers and markets lost in the 1980's can never be retrieved.

ALLEVIATING FINANCIAL STRESS

Estimates indicated that a more balanced Federal budget would reduce real interest rates by 4 percentage points (Tweeten, 1985a).[3] For example, this would lower interest rates on Federal Land Bank mortgages from 12 percent to 8 percent. Lowering interest rates by 4 percentage points would add $8 billion to net farm income. Financial stress to farmers would be reduced, not only by lowering interest costs and raising net farm income, but also by raising land earnings and land prices.

ALLEVIATING EXCESS CAPACITY

Lower real interest rates also would help alleviate financial stress in developing countries whose loans carry U.S. interest terms. This would reduce their need for trade surpluses to service debt, thereby, allowing them to increase their imports of our farm products. Lower real interest rates would in time reduce the value of the dollar by 20 percent. Each percentage point reduction in the value of the dollar would raise farm exports 1.0 percent in approximately five years. A resulting 20 percent increase in U.S. exports would alleviate considerable excess capacity in agriculture.

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dollar such as high Federal deficits and high real interest rates will not be sustained. The dollar and the balance of payments deficit will fall as these underlying influences fall.

Some have said the value of the dollar is high because the U.S. is a "safe haven." If the dollar is truly overvalued in relation to purchasing power parity, it could fall at almost any time, causing large real wealth losses to holders of the dollar. That is hardly a safe haven.

[3] Evans (1985) found no influence of Federal deficits on interest rates, a complete contradiction of my statistical results. Evans' work is not relevant to conditions in the 1980's because it relied on highly abnormal wartime experience and on peacetime experience when Federal deficits were small or offset by local and state surpluses which he ignored. The shortcomings are similar to those in earlier studies which erroneously showed no impact of exchange rates on exports—an expected result using data for periods with fixed exchange rates. My more recent estimates for interest rates should be more reliable than those of Evans.

The adjustment would not occur quickly even if the government moved immediately to balance the budget. It is possible that timing of a move toward a balanced Federal budget will be wrong, reinforcing an incipient recession. Farmers would probably be better off with lower real interest and exchange rates even if the nation were experiencing recession. Consumers would be much worse off, however. But continued large full-employment deficits are as unsustainable as the consumer prosperity they buy—consumers must pay tomorrow for living beyond their means today.

SUMMARY AND CONCLUSIONS

Erratic and overly expansionary monetary policy caused cash-flow and instability problems for agriculture in the 1970's. Money supply management improved in the 1980's, but the legacy of inflation was not forgotten by investors and was a factor in holding up interest rates after inflation rates fell.

In the 1980's, neo-Keynesian fiscal policy raising real interest and exchange rates has taken a heavy toll of industries competing for exports or with cheap imports.[4] Agriculture is especially disadvantaged because it has twice as much capital per worker as other industries (and high interest rates are a cost of capital), is a major net debtor (creditors gain and debtors lose from high interest rates), and relies heavily on exports. Rural industries such as mining, lumbering, and textiles which must compete with imports are also especially disadvantaged by the high value of the dollar. These industries are more easily protected than farming, however, because the very real costs of import quotas and tariffs are less visible to the public than are Treasury outlays required to subsidize farm export expansion.

High full-employment Federal deficits underlying high real interest and exchange rates will not persist. Neither will the unprecedented international trade deficits persist. Consumers live well today, not just on domestically produced goods, but on large imports financed by borrowing from foreigners. Massive debts being incurred today will have to be paid off (highly unlikely) or interest serviced by higher U.S. exports in the future. Future interest payments to foreigners will exceed the value of additional consumption made possible by borrowing from abroad. Agriculture will be the cornerstone of industries providing exports to repay debts and interest. Thus, the 1990's could see farmers prospering while consumers face austerity. Unfortunate macroeconomic and trade policies employed by several Latin American countries in the 1980's created excesses forcing retrenchment of benefit to their agriculture in the 1980's. The United States of the 1980's could be the "Latin America" of the 1970's.

Predicting when the inevitable turnaround will occur is not possible. But the longer the turnaround is delayed, the larger are likely to be the shocks and dislocations to our economy.

Some contend the answer to high real interest rates is more rapid growth in money supply. Such a policy risks rekindling inflation so that both real and nominal interest rates would be high. Fear that the Federal Reserve might pursue such a policy probably contributes to investors' demands for high real interest rates.

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[4] U.S. farm exports are down, not only because of the high value of the dollar, but because of debt crisis and recession abroad. The latter two problems also trace partly to U.S. macroeconomic policy.

Macroeconomic policy has placed agriculture on an unwanted economic roller coaster ride. In principle, the solution is straightforward. Based on what economists know about macroeconomics, the appropriate macroeconomic policy is to incur deficits during recession or depression and to have a balanced or surplus Federal budget when unemployment is 7 percent or less. The rate of increase in money supply should be about 5 percent per year with a slightly faster rate during recession.[5] The problem is not so much one of what is sound macroeconomic policy but how to muster discipline to follow it.

Agriculture and other sectors would like to know how to restore macroeconomic policy integrity to the system. The proximate cause of farmers' economic ills is high deficits which cause high real interest and exchange rates which, in turn, cause low farm commodity and land prices and/or high Treasury outlays for commodity programs. But the root cause of the problem is failure of the political system, specifically, a failure of *encompassing* institutions which view the economy from the perspective of the national public interest rather than narrow special interests. The "democratization" of Congress has enhanced the power of congressional subcommittees, individual Congressmen and Senators, and of special interest groups. The same process has diminished the power of encompassing institutions such as Congressional leadership and political parties. If the Presidency, the most powerful of all encompassing institutions, fails to provide leadership for responsible fiscal policy, the balance of power shifts to special interests at the expense of the public interest. Restoring integrity to macroeconomic policy will require Presidential leadership and Congressional reform to shift the balance of power towards encompassing institutions.

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[5] A faster rate of increase in money supply may be tolerated if fiscal policy is less stimulative. Macroeconomic policies can do little to reduce unemployment below the "full" or natural level—demographics and structural policies such as minimum wage adjustments and training programs are required to reduce the natural unemployment rate.

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EFFECTS OF TRADE AND MACROECONOMIC POLICIES ON AGRICULTURE

By Leroy J. Hushak *

The international trade and macroeconomic policy situations have changed drastically since 1972, with precipitating elements traceable to the mid-1960's. The devaluation and then floating of the dollar in 1972 to 1973, increased monetary growth rates after 1965, and increased debt loads, first internationally to finance trade in the 1970's and then in the U.S. to finance government deficits after 1980, have all contributed to a very different international trade and finance situation than existed before 1972. In this chapter we address the international trade and financial situation as it has developed since 1972, and how it is linked to changes in U.S. agriculture. With relatively stable domestic demand for food and fiber products, changes in U.S. agricultural export levels have had major impacts on U.S. agriculture.

Historically, U.S. agriculture has probably had a comparative advantage in the production of feed grains, food grains, and oilseeds. Since 1970, these three product groups have comprised 60 to 70 percent of U.S. agricultural exports with about equal shares from each group. Cotton, tobacco, and animal products are other important export products, but U.S. imports of animal products are approximately equal to exports. In addition to animal products, imports of agricultural products are concentrated on tropical products such as coffee, cocoa, fruits, and vegetables.

In the mid-1980's, U.S. agriculture probably retains its comparative advantage in the production of corn, wheat, and soybeans. In other words, the costs of producing these commodities in comparison to the costs of producing other agricultural or nonagricultural products is low in the U.S. when compared to other countries. However, because of particular trade and macroeconomic policies in the U.S. and in other countries, U.S. agriculture finds itself at a competitive disadvantage in the production of these commodities, i.e., the prices at which the U.S. offers these commodities in world markets are higher than offer prices from competing countries. In addition to production costs, trade restrictions and the exchange rate have critical roles in determining the competitive position of U.S. agricultural commodities in world markets. In this chapter, we discuss (1) the trade environment, (2) U.S. agriculture in the world market, and (3) monetary and fiscal policy linkages to agricultural trade.

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THE TRADE ENVIRONMENT

Trade and Related Policies

Tariffs (import taxes), export subsidies, and quotas are the policies which probably come to mind most frequently when discussing trade policy. However, use of these trade policy tools appears to be declining because of milti-lateral trade negotiations and, more importantly, the perceived need for more flexible policy tools since the breakdown of the fixed exchange (Bretton Woods) system in 1973. The most important tariff policy at present is probably the variable levy system of the EEC where the import tax is set such that the minimum commodity import price plus the levy is equal to the support price of the commodity.

The most prominent trade policy at present is some form of direct state trading, i.e., where the national government or some appointed organization makes all export sales or import purchases. The wheat marketing boards of Australia and Canada are examples of export agencies. The Russian wheat deal of 1972 is an example of state import trading. The growth of discretionary trade policies such as state trading increases the difficulty of predicting trade patterns.

In addition, there are bilateral and multilateral trade agreements. Bilateral agreements between two countries are relatively easy to obtain but can be restrictive if the agreement isolates the negotiated commodities from market forces. Multilateral agreements among three or more countries, such as GATT and UNCTAD, are much more difficult to negotiate.

Agricultural policies such as price supports and input subsidies can also affect trade. For example, U.S. price support policies on wheat and corn throughout the 1950's and 1960's, and now again in the 1980's, prevented U.S. export prices from falling to world levels. This "floor" price has cast the U.S. as the residual supplier of these commodities to world markets.

The International Financial System

In 1973 when the U.S. floated the dollar, the international financial system began its transformation from a fixed to a flexible/managed float exchange system. The major industrial countries of the EEC, Japan, Australia, and Canada floated their currencies against each other. Many developing countries kept their currencies pegged to the dollar, however. Exchange prices of commodities are determined differently under floating than fixed exchange rates.

Aside from transportation costs and trade restrictions, the price of any commodity, say wheat, in a country can be expressed in terms of another country's price, say the U.S., as

$$Pd = e\ Pus$$

where Pd is the domestic price of the given country, Pus is the U.S. price, and e is the exchange rate defined as the domestic currency units required to purchase one dollar.

Under fixed exchange rates, the exchange rate was fixed or allowed to change only under controlled conditions. Under the fixed rate system, the relative prices of wheat between two countries were equal to the fixed or constant exchange rate,

$$Pd/Pus = e^* = \text{CONSTANT}.$$

The strength of the fixed exchange system is its stability. Each country has relatively certain knowledge of its position in world markets. Through knowledge of its exchange rates with other countries and of its fiscal and monetary policy position, each country can establish stable trade linkages to other countries. Its long run supply functions relative to those of other countries are subject only to changes in technology. The major short run uncertainty is weather impacts on output.

Under the flexible/managed float exchange system, e is variable between any two countries which allow their exchange rates to float. When e is variable, the relative prices of wheat or any other commodity between any two countries must change as e changes for reasons which may be totally unrelated to production or consumption of the commodity. For example, when the trade weighted value of the dollar rose by 75 percent between 1980 and 1984, the ratio of Pw/Pus must have risen from say one to 1.75, where Pw is world price, if U.S. wheat was to remain competitive. In other words, the change in e generated a world price increase of 75 percent relative to the U.S. price (or a 45 percent decrease in the U.S. price relative to the world price).

Flexible exchange rates were expected to allow faster adjustment to external disequilibrium between countries. The expected advantage of the system was that trade relationships between countries would be allowed to remain in equilibrium without constraining fiscal and monetary policies of individual countries. When a country changed its policy or exogenous shocks occurred, the exchange rate would adjust and reestablish equilibrium.

However, the flexible exchange system which has emerged since 1973 has not responded neutrally to the fiscal and monetary policies of individual countries. Rather, it has emerged to reflect the fiscal and monetary policy status of each country more than the balance of payments position. It is more strongly affected by capital than trade flows.

U.S. AGRICULTURE IN THE WORLD MARKET

The World Food Market

In this section we discuss the ways in which U.S. agriculture fits into the world food and fiber system. The world demand for food is effected primarily by relative food prices, real per capita income, and population. The economic theory of demand implies that the quantity demanded of food increases as food prices decrease and as per capita income and population increase. World food consumption grew at an estimated 2.5 percent per year during 1960 to 1980. It is expected to be less during 1980 to 2000 because of slower per capita income growth in the developing countries and of high world debt.

The responsiveness of consumption to income or price is measured by an elasticity. The income (price) elasticity of demand is defined as the percent change in the quantity of food demanded when income (price) changes by one percent. The income elasticity is expected to be positive while the price elasticity is expected to be negative. The income and price elasticities of demand for food are generally inelastic, i.e., quantity demanded changes less than in proportion to income or price. This is especially true for wheat and corn. These estimates imply that a relatively small increase in world output will be accompanied by a relatively large decrease in world price unless income or population increases to offset the implied price decrease.

The world supply of food is affected primarily by two factors: food prices relative to input prices and weather. Higher food prices encourage farmers to invest in production capacity and increase output. Weather fluctuations tend to randomly affect food production. Weather impacts are frequently large as compared to price and income impacts. Food production grew at an estimated 2.5 percent per year during 1960 to 1980, which is similar to the rate of growth in food consumption.

The nominal value of world agricultural exports increased from $33 billion in 1960 to $233 billion in 1981 before declining. This rapid growth rate was dominated by inflation; the inflation adjusted increases are 15 percent in 1960 to 1972 and 41 percent over 1972 to 1981. Wheat, coarse grains, and soybean exports grew more rapidly than total inflation adjusted agricultural exports. From 1973 to 1981, the U.S. share of total exports was in the 17 to 19 percent range.

In addition to the U.S., the major wheat exporting countries are Canada, Australia, Argentina, and France. Since 1960, these five countries have shipped 75 to 90 percent of wheat exports. The U.S. alone originates 30 to 40 percent of all wheat exports.

The major exporters of coarse grains are the U.S., Canada, Australia, Argentina, Thailand, and South Africa. These six countries have originated 65 to 90 percent of coarse grain exports. The U.S. share has been 40 to 60 percent. Brazil and the Republic of China have emerged as exporters of coarse grains in the early 1980's. The U.S. has been the dominant exporter of soybeans. Argentina and Brazil have emerged as significant producers and exporters of soybeans in the 1980's.

Large importers of wheat, coarse grains, and soybeans are much more diversified. The import shares of the developed countries—all of Europe except France, and Japan—have declined for both wheat and coarse grains while that of the centrally planned and the developing countries has increased.

Import or excess demand is defined as domestic quantity demanded less quantity supplied at each price. Most estimates of the price and income elasticities of import demand for wheat and coarse grains are between one-half and two in magnitude. Estimates for developed and developing countries are inelastic, i.e., less than one in magnitude, while estimates for centrally planned countries are greater than one in magnitude. The larger elasticities for the centrally planned economies may reflect the use of wheat in particular as a livestock feed.

Demand for U.S. Agricultural Exports

There appears to be a direct linkage between exchange rate changes and U.S. agricultural exports. The two periods over which the exchange value of the dollar fell (1971 to 1973 and 1977 to 1979) correspond with surges in priced received by U.S. farmers and of exports. These periods also correspond with rapidly rising world nominal income, easy credit, and relatively low world food stocks. Farmers in the U.S. responded rapidly and the U.S. was able to take advantage of a large world demand before other countries increased production capacity. After 1981, the exchange value of the dollar started rising, world nominal income growth declined (real per capita income growth was negative), credit was tightened and other countries had built new food production capacity.

The price elasticity of demand for U.S. agricultural exports is expected to be negative and relatively large in magnitude. Even in a large country such as the U.S., a relatively large response of quantity demanded to price is expected because the importing country can purchase the commodity from other sources if the exporting country raises its price. Recent evidence, however, suggests that the price elasticities of demand for U.S. exports of wheat, corn, and soybeans are no larger than the import demand elasticities of importing countries, i.e., between one-half and two. This evidence is suggestive of the importance of discretionary trade restrictions and bilateral trade agreements.

MONETARY AND FISCAL POLICY LINKAGES TO AGRICULTURAL TRADE

Governments can finance expenditures in three ways: taxation, printing money, and selling bonds. In the U.S., only the Federal Government can print money. Nearly all government units (state, county, municipal, etc.) can levy taxes and sell bonds. When tax revenues cover expenditures, the budget is balanced. We focus on situations where the Federal budget is in deficit, and resort to money or bond finance is made.

The exchange rate is a monetary variable. However, in the present international financial system, the exchange rate is not a policy or control variable, i.e., it cannot be administratively changed, but only through the manipulation of other variables. Linkages of the exchange rate and agricultural exports and prices to two monetary variables (money supply, interest rates) and two fiscal variables (U.S. Federal budget deficit, world debt) are explored in this section.

Effects of a Change in Money

There are two types of monetary policies: 1) a one-time change in money supply and 2) a change in the rate of growth of money. A one-time increase in the supply of U.S. dollars means that people have more dollars after the increase. If they were satisfied with the quantity of dollars they held before the change, then after the increase they have more dollars than they want. They will try to exchange some of their dollars for other things.

Money has two uses to people: (1) it is a store of value or asset and (2) it facilitates exchange of goods and services. Research shows that when people have more units of money than they desire to keep, they first attempt to trade for other stores of value. Alternative assets include other currencies (pounds, marks, yen), commodities (gold, oil, wheat, corn), or bonds. With too many dollars, people begin to exchange dollars for yen, gold, wheat, treasury bills, etc. They begin to bid up the dollar prices of other stores of value. This has the initial effect of raising the exchange value of other currencies, raising commodity prices, and raising bond prices. Since most activity is initially concentrated on assets, the prices of stores of value are likely to increase more than in proportion to the change in money supply; this is called overshooting. As consumer goods adjust, all prices are expected to increase in proportion to the one-time increase in money supply. This is called the neutrality of money.

The initial effect of the increase in money supply on the interest rate is to reduce it. With excess currency, holders of dollars are willing to accept a lower rate of return on other stores of value. This occurs most obviously through the bidding up of bond or fixed value security prices, which lowers the return on bonds. Initially, the interest rate fall will overshoot its new equilibrium level as most activity is focused on assets. As the adjustment in consumer goods markets occurs, the interest rate will increase from its low. At the new equilibrium the dollar, prices of assets and consumer goods are higher and the U.S. interest rate lower because there are more U.S. dollars relative to other assets and consumer goods.

In most cases, a country does not make one-time changes in the money supply, but rather a change in the rate of growth of the money supply over time. For example, in 1979 the U.S. Federal reserve made a policy change which reduced the rate of growth of U.S. dollars. We discuss a case where the U.S. increases the rate of growth of money by one percentage point, say from 3 to 4 percent per year. Since this change is in part a series of one-time changes, the discussion of the one-time increase in money supply applies to this case.

However, there are further effects. We assume that people expect the policy change to be permanent, i.e., their beliefs are changed from expecting the money supply to grow at 3 percent per year to 4 percent per year. The money supply of other countries is also growing at 3 percent per year and is not expected to change.

Before the policy change, there are already two important differences between this and the previous case. First, since the money supply is increasing relative to commodities, bonds, and consumer goods, the prices of these assets and goods are increasing at approximately 3 percent per year, abstracting from income and production growth effects. This 3 percent per year is called the inflation rate. Second, there is now a divergence between real and nominal interest rates; the nominal interest rate, i.e., that rate earned on bonds (treasury bills, etc.) is equal to the real rate (the inflation adjusted return) plus the inflation rate.

With the increase to 4 percent in the growth rate of U.S. dollars, the holders of dollars desire to shift to other things. Initial shifts are again concentrated on other assets leading to an increased relative rate of growth in asset prices. This increase will lower the real interest rate (and probably the nominal rate) in the early phases of adjustment. As the rate of price growth on consumer goods increases from 3 to 4 percent, the rate of inflation increases to 4 percent, which raises the nominal interest rate to a level higher then before the policy change.

In both cases, an increase in U.S. money relative to other currencies is expected to reduce the exchange value of the dollar and reduce the real interest rate, which the nominal interest rate increases if the increase in money supply continues over time. The reduced exchange value of the dollar improves the export advantage of U.S. products while the lower real interest rate reduces production costs. In the short run, there is excessive price incentive on agricultural commodities because of overshooting. In the cases of a decrease in money supply or a decrease in the rate of growth of money, all effects are in the opposite direction.

Effects of Bond Financing

In this section we discuss the financing of the U.S. fiscal deficit through the sale of government securities (treasury bills, savings bonds, etc.). It is assumed that the money acquired from the sale of these securities is used to cover government expenditures and has no effect on the supply of money.

The issuing of government securities represents an increase in the supply or number of interest bearing bonds. If the government is to sell these bonds, it must do so at interest rates which attract dollars from other uses. As with changes in money supply, the early responses are likely to be in asset markets. Since there are a fixed number of dollars with which to finance assets and consumer goods, the issuance of government securities is expected to first increase the real interest rate and the exchange value of the dollar. The increase in real interest rate generates an expected fall in other asset prices (nondollar currencies, commodities and bonds). The exchange value of the dollar is expected to increase. As the adjustments are completed in the consumer goods markets, some lowering of consumer goods prices is expected.

These effects of bond financing and no money growth are the opposite of money financing, leading to the opposite trade effects, i.e., lower exports, lower commodity prices and higher exchange value of the dollar. Between 1965 and 1979, a period of realatively easy money, the exchange value of the dollar was on a downward trend. Commodity prices, for agricultural products and oil in particular, showed strong upward trends. Nominal interest rates were high because of relatively high rates of inflation but real interest rates were often negative, i.e., the rate of inflation exceeded the nominal interest rate.

In 1979, the Federal Reserve reduced the rate of money growth and in 1981 the Reagan administration began running large budget deficits. The exchange value of the dollar began increasing after 1980 while commodity prices stated in dollars began to fall.

Effects of International Debt

The level of borrowed funds held throughout the world began increasing very rapidly after 1968, and then slowed dramatically about 1982. These changes lag changes in U.S. monetary policy by about three years. First, the Great Society and Viet Nam War monetary expansion after 1964 was reinforced by the circulation of petrodollars after 1973. Then the Federal Reserve target change in 1979 preceded the slowdown in credit expansion after 1982 by three years. The slowdown of world debt growth also corresponds with the increased rate of debt accumulation by the U.S.

The rapid expansion of world debt probably contributed strongly to the high growth in nominal world gross domestic product after 1972. However, it may also have contributed to lower real gross domestic product growth after 1972.

Over 60 percent of international debt is held by important export markets for U.S. agricultural products. These debtor countries need to be able to export their products in order to generate the international reserves needed to pay off loan commitments. These are loan commitments which were made during the 1970's under an easy or cheap money policy when the exchange value of the dollar was low. Now these countries are faced with repaying these loans in a tight money framework where the exchange value of the dollar and real interest rates are high.

LINKAGES TO U.S. AGRICULTURE

Changes in the levels of agricultural exports provide the margin of prosperity for U.S. agriculture. During the 1970's, with growing world demand for food products, commodity prices were high and U.S. farmers expanded production capacity to meet even higher expected export demand in future years. This expectation did not materialize, and in the 1980's U.S. farmers are faced with excess capacity largely due to declining export levels. U.S. exports have declined because of increased competition from other exporting countries and reduced demand by importing countries.

These changes are closely tied to the monetary and fiscal policies which compose the international financial system. In the 1970's, a "cheap" dollar policy which led to a declining exchange value of the dollar along with low world food stocks generated large demands for agricultural commodities. Agricultural expansion occurred at low to negative real interest rates. A further little recognized even was the rapid accumulation of world debt along with U.S. farm debt during the 1970's.

In contrast in the 1980's, we have had a "dear" dollar policy which has raised the exchange value of the dollar along with increased agricultural capacity in the rest of the world. Relative U.S. prices of export commodities have increased in the face of declining demand. Further, high real interest rates have substantially increased the cost of carrying debts accumulated during the 1970's, both in countries which are U.S. agricultural export markets and for U.S. farmers.

There is little research on how changes in agricultural trade have affected particular farmers or particular rural communities. Farmers with higher debt levels and smaller farmers appear to be more affected. To a large extent, these effects appear to be related to the dependence of particular regions on agriculture. For example, both farmers and nonfarm residents of the western corn belt and great plains states appear to have benefitted more during the 1970's than residents of the eastern corn belt because of greater dependence on agriculture and the relatively larger impacts this generated. These same areas appear to be much more negatively affected in the 1980's because there are fewer nonfarm employment options to which agriculturally dependent people—farmers and those employed in the farm imput industries in particular—can turn to supplement reduced or replace lost income from food industries.

IMPLICATIONS OF AGRICULTURAL ADJUSTMENTS FOR THE U.S. ECONOMY

By Fred C. White *

U.S. agriculture has recently been plagued by declining export demand and mounting surpluses leading to depressed product prices. After reaching a peak in agricultural exports of $43.8 billion in 1980 to 1981, these exports declined to $32 billion in the 1985 marketing year (USDA, *Agricultural Outlook,* 1985). Correcting for inflation, the value of 1985 agricultural exports was only $27 billion in constant 1981 dollars. Despite major efforts through the Payment-In-Kind (PIK) program in 1983 to reduce reserves, carry-over stocks in 1985/1986 were larger than previous levels for major commodities. Wheat carry-over stocks in 1985/1986 were 50 percent above 1981/1982 levels, while corn carry-over stocks in 1985/1986 were 31 percent above 1981/1982 levels (USDA, *Agricultural Outlook,* 1985). Between 1981 and 1985, prices received by farmers for all commodities declined 8 percent but, after correcting for inflation, real prices declined 22 percent during this four-year period (USDA, *Agricultural Outlook,* 1985). Major export commodities such as wheat, feed grains, and soybeans have been hit hard by reduced export markets.

These reduced market outlets and depressed prices have had severe effects on the farming sector with the current situation commonly termed a farm financial crisis. The magnitude of the current problem has been addressed in a number of recent publications (e.g., USDA, *The Current Financial Condition of Farmers and Farm Lenders,* 1985, and Melichar, 1984). Over the 1981 to 1985 period, cash receipts have declined while cash expenses have continued to mount, creating cash flow problems for a large number of farmers. Johnson, et al. (1985) estimated that over half the farm debt would not be serviced if prices and incomes remained at 1985 levels. Under current interest rates and product prices, family-size commercial farms with over 40 percent debt-asset ratios appear to be experiencing cash flow problems and are generally characterized as being in a state of financial stress. The USDA estimated that one-third of family-size commercial farms in 1985 were experiencing financial problems ranging from difficulties servicing debt to technical insolvency (USDA, *The Current Financial Condition of Farmers and Farm Lenders,* 1985).

Considering the severity of the current farm problem, it will not be limited only to the farming sector but will impact the nonfarm sector as well. A recent study of the economy-wide impact of agricultural loan losses indicated higher interest rates, higher unemployment rates, and reduced gross national product would result from farm financial problems (Shink and Urbanchuk, 1985). However, these indirect economy-wide impacts of farm problems have not received adequate attention.

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The overall objective of this chapter is to explore the effects of reduced agricultural production on the nonfarm sector. Attention will be focused on the geographical distribution of the economy-wide impacts of reduced agricultural production.

AGRICULTURAL PRODUCTION ADJUSTMENTS

It is important to look at what factors have contributed to these farm problems and what response in terms of production will likely be made to these problems. The problem can best be understood by focusing first on what has happened in export markets.

The United States experienced a five-fold increase in agricultural exports over the decade of the 1970's. This expansion in exports can be largely attributed to devaluation of the dollar, a booming global economy, and expanded credit for importing nations. Devaluation of the dollar meant U.S. farm products could be bought at lower relative prices in terms of foreign currencies. Real incomes increased in many countries, resulting in expanded demand for food. U.S. banks made extensive loans to developing countries at low real interest rates; much of this credit was used to import goods, including U.S. agricultural products.

The environment surrounding U.S. agricultural exports changed dramatically in the 1980's. Lower inflation rates, resulting from a slowdown in monetary growth, increased real interest rates. Large federal budget deficits placed additional upward pressure on interest rates. The value of the dollar appreciated against most foreign currencies as foreign investors opted for the high real interest rates in the U.S. A global recession reduced effective demand for agricultural products even if real prices had remained unchanged. In the face of sluggish economies and high real interest rates, many developing countries had difficulty servicing outstanding debt and consequently had to reduce imports of agricultural products.

In 1981 U.S. agricultural exports peaked at $43.8 billion while imports were $17.2 billion (USDA, *Economic Indicators of the Farm Sector,* 1983). Thus the U.S. agricultural trade balance in 1981 was $25.6 billion. With a substantial reduction in agricultural exports and an increase in agricultural imports, the U.S. agricultural trade balance has continued to deteriorate since 1981. In 1985 the agricultural trade balance was only $12 billion, with $32 billion in exports and $20 billion in imports.

The value of cash receipts for crops and livestock in 1985 was estimated to be approximately $138 billion (USDA, *Agricultural Outlook,* 1985). This represented a 3 percent reduction in nominal value between 1981 and 1985 but an 18 percent reduction in the real value of cash receipts. Despite the large reduction in the real value of cash receipts, the farming sector has not yet made significant reductions in input use and output. Crop acreage in 1985 was 3 percent below 1981 levels, and farm output in 1985 was 2 percent below 1981 levels (USDA, *Agricultural Outlook,* 1985). Much of the excess production is ending up in government stocks. Additional cutbacks in production and input use will be required to clear the market.

The 1985 farm bill contains provisions to reduce price supports through time and divert production in order to get further response, particularly on the production site, to help clear markets. Wheat acreage diversion over the 1986 to 1990 period could be as high as 25 to 30 percent, with the potential for some in-kind payments in order to reduce stocks. Likewise, corn acreage diversion could be as high as 20 percent over the 1986 to 1990 period. In dairy, the government will implement a whole-herd buy out program to reduce output. The farm bill also slates 40 to 45 million acres for conservation reserve. In summary, the agricultural sector has already been adversely affected by the current economic environment, but substantial additional adjustments in the agricultural sector are anticipated.

LINKAGES BETWEEN THE FARM AND NONFARM SECTORS

Sluggish economic growth being experienced in many rural areas had its origin in the economic problems of the farm sector. Changes in agricultural production affect an area's economy in two ways. First, a change in agricultural production causes a direct change in net farm income and farm labor earnings. Secondly, this change is felt throughout the economy as it produces changes in income in other sectors. A change in agricultural production affects income and employment in agribusiness firms that process and handle agricultural products and supply inputs to farming. Subsequently, agribusiness firms purchase from other industries, and workers in agriculture and agribusinesses spend money for goods and services produced by other industries.

Reductions in agricultural production will have a pronounced impact on the farm input supply industry. With reduced production, farmers use less fertilizer, chemicals, seed, labor, and operating capital. The Payment-In Kind program of 1983 is a classic example of how input usage adjusts to a short-term reduction in output. Although the overall index of prices received by farmers was almost unchanged between 1982 and 1983, farm output was 17 percent lower in 1983 than in 1982, largely as a result of the government program. During this same period, fertilizer expenses declined 16 percent, fuel and oil expenses declined 8 percent, pesticide expenses declined 3 percent, and seed expenses declined 13 percent (USDA, *Economic Indicators of the Farm Sector,* 1984). These figures indicate that the fertilizer industry would be hit especially hard by a reduction in agricultural output. A drop in fertilizer demand would soften fertilizer prices and reduce fertilizer manufacturers' revenues by a greater extent than the drop in fertilizer usage. Similar results would be felt by other input suppliers.

A reduction in output would also reduce the demand for fixed capital, land and equipment. Farmland values are already showing dramatic reductions in many states, plummeting 30 percent or more from the peak of the early 1980's. Use of farm equipment will be reduced, which should extend its life and reduce the need for repairs. Thus investment in farm equipment and machinery would be expected to decline with a reduction in agricultural output. The demand for this type of investment is further reduced by low profitability in farming.

Agribusinesses which handle and process agricultural products would be adversely effected by a reduction in agricultural production. The effect on the distribution system will include reduced demand for truck and rail transportation. Activity in food and fiber processing industries will be curtailed.

Reduced economic activity in farming and agribusinesses, in turn, affects other sectors of the economy. Farms and agribusiness firms would reduce purchases of intermediate products. Furthermore, reduced profits and labor earnings in farming and agribusinesses would result in lower spending levels for retail goods and services. While this section has described the nature of the interlinkages of farming and other sectors of the economy, the following section quantifies these interlinkages.

MULTIPLIER EFFECTS

By now it should be clear that the agricultural adjustments that have occurred between 1981 and 1985 and the anticipated adjustments needed to clear agricultural markets will change the level of economic activity in the overall economy. The next question to consider is: How much is the overall economy affected by current farm problems? The total change in economic activity due to interactions among sectors is measured by output multipliers. Available evidence on output multipliers is reviewed and applied to the level of agricultural adjustments.

Expenditures by one sector constitute receipts to another and, thus, the output multiplier indicates the summation of the revenue generated by the initial expenditure in one sector through spending and respending in all other sectors. It provides a quantitative measure of the impact on all other sectors' outputs resulting from a unit change in output of a given sector. The output multipliers were 2.68 for livestock and livestock products and 1.84 for other agricultural products (Young and Ritz, 1979). These coefficients indicate that a one dollar change in livestock and livestock products changes total sales in the economy by $2.68 after accounting for all linkages to the other sectors and, likewise, a one dollar change in other agricultural products changes total sales in the economy by $1.84. After correcting for inflation, the real value of cash receipts for crops declined by $17.20 billion (1985 dollars) between 1981 and 1985. Also, the real value of cash receipts for livestock declined by $12.65 billion (1985 dollars). Using the output multipliers described above and these reductions in real value of cash receipts, the total economy-wide impacts of the reduced economic activity in agriculture is $65.55 billion annually. In other words, the reduced prices and incomes experienced by farmers between 1981 and 1985 has caused a slowdown in the aggregate economy equal to $65.55 billion annually in aggregate economic activity.

Another multiplier reported in the literature is the agricultural export multiplier. A multiplier of 2.05 can be used to estimate the total impact of the economic activity generated by agricultural exports (Schulter). The real value of agricultural exports declined by $19.68 billion (in 1985 dollars) between 1981 and 1985. If the agricultural export multiplier is applied to this reduced value of exports, then it is evident that aggregate economic activity in the U.S. declined by $40 billion as a result of the reduced value of agricultural exports.

The output multipliers described above provide a measure of the gross benefits resulting from changes in output of the given sectors. Net benefits are measured as the net wage increases (through expanded employment) going to workers in each of the sectors and the net profit gains of firms in each of the sectors (Eddleman, 1977). In an effort to measure these net benefits, White and Miller (1980) estimated personal income multipliers for each State. These multipliers may be interpreted as the direct and indirect change in personal income resulting from a one dollar change in agricultural production (Table 1).

TABLE 1.—ANNUAL IMPACTS OF REDUCED EXPORTS IN WHEAT, CORN, AND SOYBEANS BY STATES

[Dollars in millions]

Region and State	Personal income multiplier	Reduced exports	Reduced personal income
Pacific:			
Washington	0.6954	$286.11	$198.96
Oregon	.5502	127.88	70.36
California	.5852	205.14	120.05
Mountain:			
Montana	.6500	163.21	106.09
Idaho	.4867	136.96	66.66
Wyoming	.2262	13.36	3.02
Utah	.3842	15.64	6.01
Colorado	.3817	157.86	60.26
Arizona	.3923	44.33	17.39
New Mexico	.4470	19.41	8.67
Northern Plains:			
North Dakota	.5857	524.03	306.93
South Dakota	.4142	215.86	89.41
Nebraska	.5080	332.95	169.14
Kansas	.3970	165.11	65.55
Southern Plains:			
Texas	.4141	339.39	140.54
Oklahoma	.3410	296.56	101.13
Lake States:			
Minnesota	.5185	459.94	238.48
Wisconsin	.4467	113.57	50.73
Michigan	.4557	346.90	158.08
Corn Belt:			
Iowa	.4979	1517.26	755.45
Missouri	.3939	635.68	250.39
Illinois	.5956	1152.06	686.17
Indiana	.5691	464.12	264.13
Ohio	.4857	398.45	193.53
Delta States:			
Arkansas	.6645	309.27	205.51
Louisiana	.6501	146.74	95.40
Mississippi	.4602	325.63	149.86
Northeast:			
New York	.3198	27.46	8.78
Pennsylvania	.4956	52.98	26.26
New Jersey	.3381	15.99	5.41
Delaware	.5348	20.84	11.14
Maryland	.4637	101.75	47.18

TABLE 1.—ANNUAL IMPACTS OF REDUCED EXPORTS IN WHEAT, CORN, AND SOYBEANS BY STATES—Continued

[Dollars in millions]

Region and State	Personal income multiplier	Reduced exports	Reduced personal income
Appalachian:			
West Virginia	.2247	2.04	0.46
Kentucky	.6059	154.92	93.87
Virginia	.4793	72.74	34.86
Tennessee	.4131	194.50	80.35
North Carolina	.6154	157.97	97.21
Southeast:			
Alabama	.4793	138.86	66.56
Georgia	.5051	238.76	120.60
South Carolina	.5260	92.32	48.56
Florida	.7194	93.06	66.94
United States	.5143	10,277.64	5,286.07

Variations in size of multipliers can be attributed to such factors as labor-use intensity in production, profitability of production and overall size of the agricultural sector. The estimated multipliers for one dollar of agricultural production ranged from 22¢ in Wyoming and West Virginia to 72¢ in Florida. The Pacific Coast States, as a region, have the largest multipliers. The Northeast and Mountain regions have the smallest multipliers.

These personal income multipliers have been applied to the change in exports over the 1981 to 1985 period for three commodities—wheat, corn, and soybeans. This information, which is presented in Table 1, gives an indication of which States are most affected by changes in exports of these particular commodities. In aggregate, the real value of exports for these three commodities declined by $10.3 billion (in 1985 dollars) between 1981 and 1985 (USDA, *Agricultural Outlook*, 1985). These aggregates were distributed to individual states on the basis of recent production reports and then state-level personal income multipliers were applied. These figures indicated that personal income was depressed by $5.3 billion annually as a result of the reduced exports of wheat, corn, and soybeans. The Corn Belt is the biggest loser, with reductions in over $2 billion in personal income annually as a result of reduced export of these commodities. The Northern Plains is the next biggest loser with a $632 million reduction in personal income annually, followed by the Delta States ($451 million reduction) and the Lake States ($447 million reduction). Economic impacts resulting from changes in other commodities could be analyzed in a similar fashion.

SUMMARY

The strong U.S. dollar and high real interest rates have eroded markets for agricultural exports. Farmers have not yet responded by reducing agricultural products in order to clear markets. The net result has been excess supplies, mounting surpluses, and depressed output prices and farm incomes. Further adjustments in production appear warranted in order to balance supply and demand. The new 1985 farm bill has provisions that should result in reduced production if excess supplies continue through the next few years.

These agricultural adjustments will have direct and significant effects on the farming sector. The repercussions of reduced agricultural production are also felt in agribusinesses that supply inputs to farmers and process and distribute farm products. However, these adjustments also impact broad segments of the U.S. economy with reduced aggregate employment and gross national product.

The real value of agricultural output in 1985 was almost $30 billion (1985 dollars) below 1981 peak levels. This reduction can be translated into a slowdown in aggregate economic activity of $65.55 billion annually. The real value of agricultural exports in 1985 was almost $20 billion (1985 dollars) below 1981 levels, retarding aggregate economic activity by $40 billion annually. These estimates indicate that the economic slowdown in the farm sector has sizable economy-wide impacts.

The geographical distribution of economy-wide impacts of farm problems was analyzed by calculating the net change in personal income by individual States resulting from reduced exports of wheat, corn, and soybeans. The Corn Belt region is losing over $2 billion per year in personal income as a result of reduced exports for these three commodities alone. Other regions that are major losers from the decline in these exports are the Northern Plains ($631 million reduction in personal income), the Delta States ($451 million reduction) and the Lake States ($447 million reduction). It is important to recognize that the impacts identified in this chapter reoccur annually so long as the farming sector is depressed.

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AMERICA'S THREE AGRICULTURES *

By Ronald C. Wimberley **

A taxonomy for classifying farms would be helpful for many purposes. It would be useful for describing agricultural conditions across the various agricultural areas of the country, for analyzing agricultural factors in relation to other social and economic conditions, and for the improved targeting of agricultural policies to effectively achieve the changes intended by those policies.

The structure of agriculture—the ways in which farming is organized in the economic and sociological sense—is a concept frequently used by those who analyze agricultural characteristics. Many variables or indicators can be used for this purpose. These include organizational features of the farm operation such as size or scale, ownership, farm operator characteristics, and the nature of farm labor resources.

Basic and applied analyses of American agriculture generally rely upon single indicators and occasionally to combinations of two indicators simultaneously. For example, scientific and agricultural policy analysts most frequently draw comparisons of farms according to their large, small, or middle sizes. Size may be defined in terms of acreages, sales, or maybe both. Yet there are farms quite large in acreage while low in sales or vice versa. A farm may have many acres of corn, soybeans, or pastureland, for instance, but have lower gross sales than another farm with just a few acres of strawberries or poultry houses.

Despite the fact that size is a fairly simple approach to a farm typology, it can be an ambiguous one. And, there seems to be no shortage of ways to conceptualize and classify farms in conjunction with size considerations. Examples include family farms, corporate farms, part-time farms, and rural residence farms. Then, there are farms and there are ranches.

Faced with so many ways of categorizing farms, and ranches, and faced with ambiguity in even the simplest and most common of indicators, it is desirable to construct a multiple-indicator measure that would be based on empirical properties on the Nation's farms. The results should be superior to either single or arbitrarily combined indicators for describing, predicting, or controling actual patterns of conditions in agricultural areas.

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AN ASSUMPTION

But to combine several structural features of agriculture into an index raises a question. Do the various indicators all measure the same thing? Do the various indicators as U.S. agricultural structure perform in unison as one, grand agricultural structure or is the structure multidimensional?

If different agricultural variables actually measure uniquely different things rather than a single, underlying phenomena, all indicators should not be combined into the same index. Instead, a systematically constructed index should be established for each meaningful component of agricultural structure found to exist. This point seems straightforward enough. Still, the assumption of only one agricultural structure into which multiple indicators harmonously overlap—an implicit assumption—has gone untested. Fortunately, statistical techniques have been developed in the social and behavioral sciences with which to test such an assumption and guide the construction of one or more multiple-indicator indexes.

A TEST

The U.S. Census of Agriculture contains items and data on the population of farms for over 3,000 counties. Twenty of its items appear in the last four censuses and represent various aspects of agricultural structure at the farm level as aggregated into county units. Although other structural indicators are conceivable, it is fortunate that these are uniformly available through the census for farms in the Nation's counties.

Table 1 lists these indicators dealing with farm scale, ownership, operation, operator characteristics, and human and machine labor resources.

TABLE 1.—*Indicators of agricultural structure from the 1982 U.S. Census of Agriculture*

Scale

1. Total number of farms in county.
2. Proportion of county's land in farms.
3. County's mean farm size in acres.
4. Number of small farms in county having annual sales of less than $2,500.
5. Total value of farm product sales in county.
6. Total value of farm real estate in county.

Ownership

7. Unincorporated individual and family owners.
8. Partnerships.
9. Corporations including those owned by families.

Operation

10. Full-owner operators.
11. Part-owner operators.
12. Tenant farm operators.

Operator characteristics

13. Working 200 or more day off-farm (part-time farmer).
14. Operators' residences either on or off the farm.
15. Mean age of farm operators in county.

Labor resources

16. Number of farms having hired workers.

17. Total number of hired farm workers in county.
18. Expenses for contract labor.
19. Expenses for customwork.
20. Estimated market value of all farm machinery and equipment.

County data on the indicators are statistically correlated to see how well they correspond to each other and then factor analyzed to see if their relationships are attributable to a unidimensional core or to several, separate factors or dimensions.

RESULTS

Principal axis factor analysis reveals that the correlations among the 20 variables fit three separate factors.[1] To aid the interpretation of the three structural patterns, the results were rotated obliquely by the promax technique. Highlights of the rotated, three-dimensional configuration appear in Table 2. Separate analyses of the same indicators from the 1969, 1974, and 1978 censuses produce similar results and interpretations.

TABLE 2.—*Three dimensions of U.S. agricultural structure*

Factor I. *Corporate/commercial agriculture*

5. Greater gross sales.
6. Higher farm real estate value.
9. Corporate ownership.
17. Many hired workers in county.
18. Higher contract labor expenses.
19. Higher customwork expenses.

Factor II. *Large farm agriculture*

2. Proportion of county's land in farms.
4. Absence of small farms selling less than $2,500.
6. Higher farm real estate value.
7. Individual/family ownership.
8. Partner ownership.
11. Part-owner operators.
12. Tenant operators.
14. Operators reside on farms.
15. Younger farm operators.
20. High machine and equipment values.

Factor III. *Smaller farm agriculture*

1. Many farms per county.
4. Many small farms selling less than $2,500.
7. Individual/family ownership.
10. Full-owner operators.
13. Working 200 or more days off-farm (part-time farmer).
14. Operators reside on farms.
16. Many farms with hired workers.

Corporate-commercial agriculture characterizes the first dimension of agricultural structure. Corporate ownership combines with high levels of farm product sales. High farm real estate value belongs in this pattern. So do great quantities of human labor resources in the form of hired labor, contract expenses, and customwork expenses. However, large county acreages of farm land, high mean acreages per farm, and farms grossing less than $2,500 annually are not particularly related to corporate-commercial agriculture.

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[1] Further details of the statistical analysis are available from the author.

Large farm agriculture comprises the second dimension. Here, part-owners and tenants operate farms in areas having much farm land but with moderate farm real estate values and a relative absence of farms with low sales. Although this dimension is characterized by only modest sales levels and the relative absence of purchased human labor, large farm agriculture depends upon high amounts of machine labor. Farm operators tend to be younger on the average and often reside on their farms. Some are part-timers.

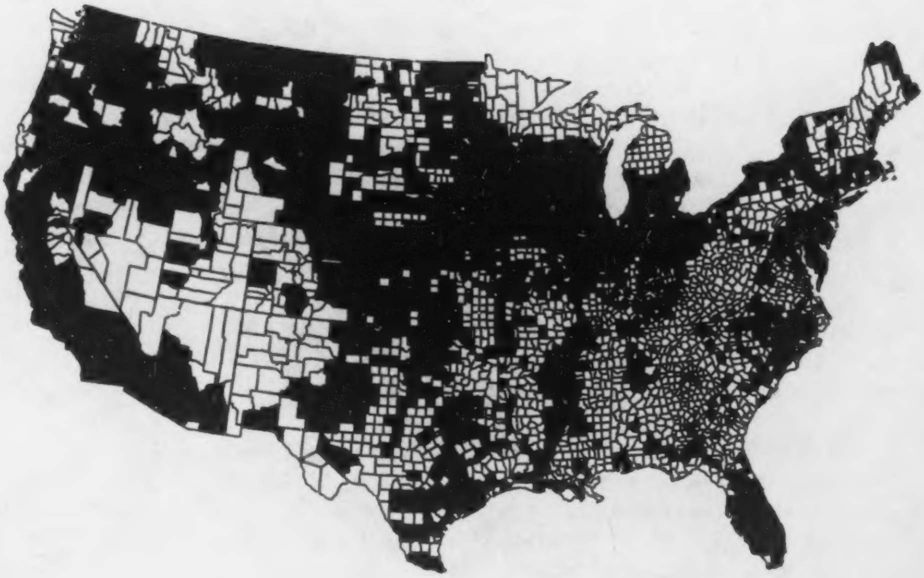
Smaller farm agriculture rounds out the three-dimensional structure of agriculture. Small farm agriculture occurs in counties with both many farms and farms with low annual sales. Predominantly, full-owners operate these individually or family-owned farms on a part-time basis while living on them as well. While small and with relatively little equipment value, some of these farms have hired labor.

Therefore, agricultural structure is not one thing; as seen through well-documented indicators, it is three things. Note, of course, that these patterns represent counties rather than individual farm units. Neither are all farms in a county of the dominant type described by a particular dimension.

When the definite indicators for each dimension are statistically translated into an index, counties can be rated on each dimension. This enables researchers to analyze any or all three types of structure with other kinds of variables in terms of *causes*—economic factors, farm policies, extension programs, or other inputs—or *consequences*—including commitment to farm careers, family well-being, community quality of life, or other social impacts. Furthermore, the three dimensional approach should be helpful in guiding policy distinctions among farms of the separate types.

THE GEOGRAPHY OF U.S. AGRICULTURAL STRUCTURE

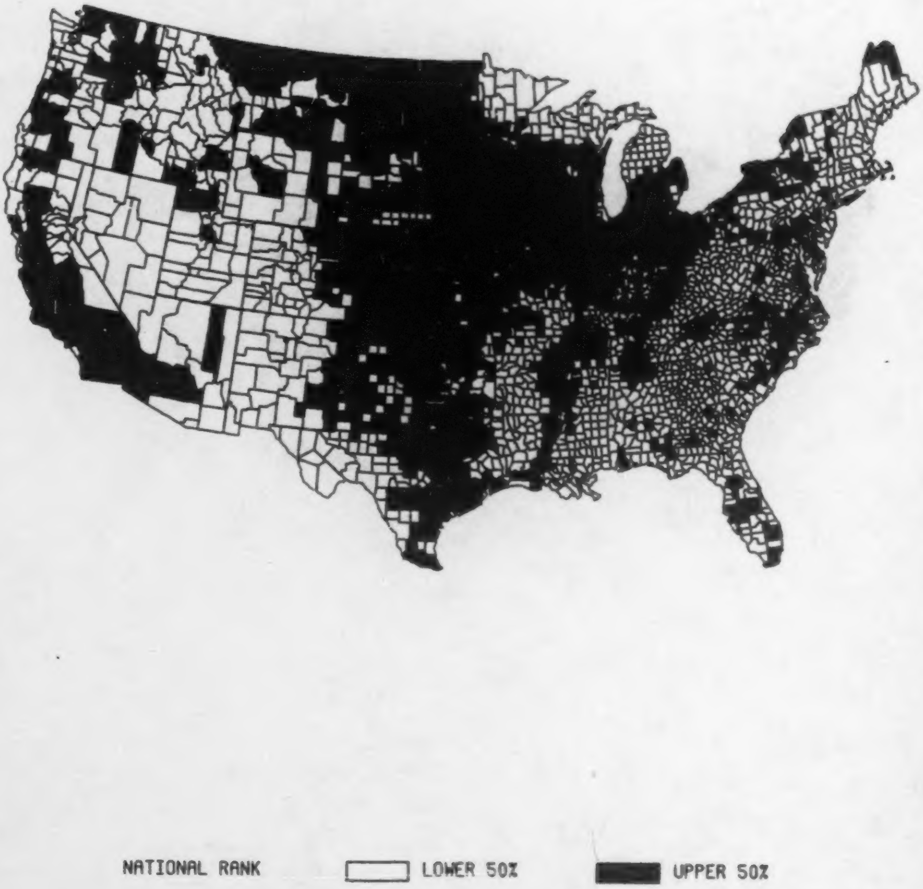
In what farming regions are these structural types most apparent? How does each type vary from region to region across the United States? Maps of counties scoring highly on each of the three dimensions demonstrate visual answers to such questions (Maps 1, 2, and 3). Note, of course, that while an index covers a wide range of values, the maps shade only those counties ranking at or above median index values.



NATIONAL RANK ☐ LOWER 50% ■ UPPER 50%

CORPORATE/COMMERICAL AGRICULTURE 1982

MAP 1.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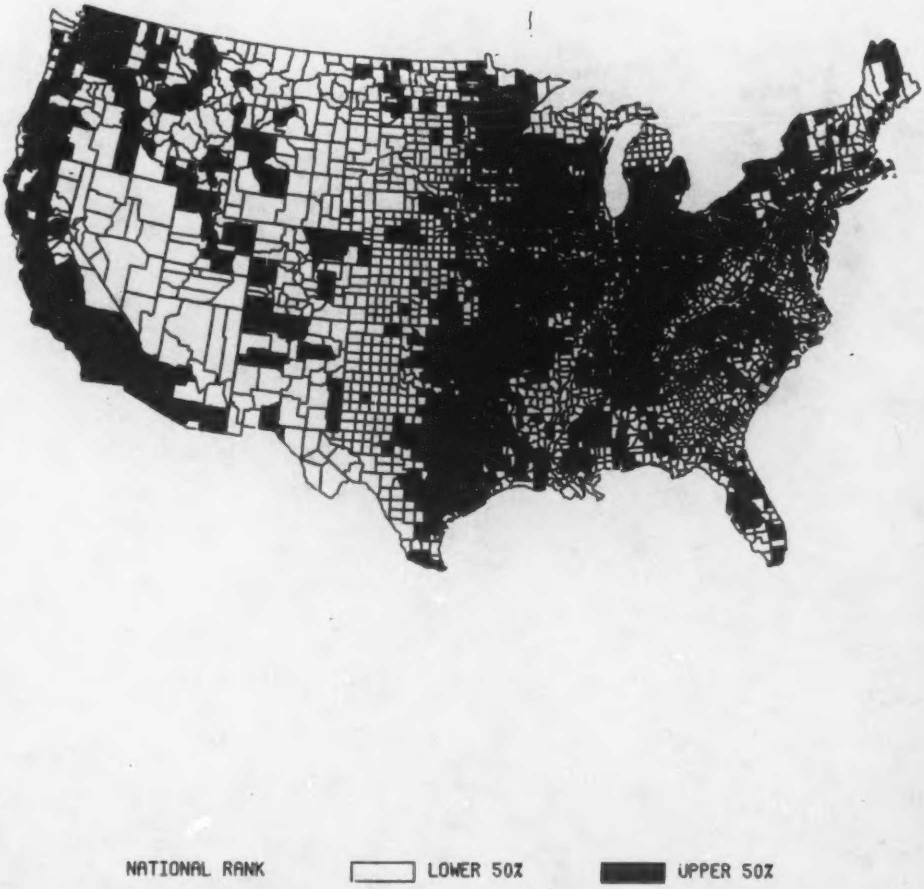
LARGE FARM AGRICULTURE 1982

MAP 2.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SMALLER FARM AGRICULTURE 1982

MAP 3.

With the exception of California where all three dimensions are common, smaller farm agriculture spreads mainly across the eastern United States, large farm agriculture pushes through the Midwest, and corporate-commercial agriculture scatters into the West. On the other hand, the western mountains and deserts have relatively few farms or ranches of any kind and show fairly low levels on all dimensions. And, all these summary descriptions are approximations since counties ranking highly in each type appear in all major regions of the country.

Corporate-commercial agriculture most clearly occupies South Florida, patches along the Atlantic Coast including the Carolinas, the upper Midwest, the western plains, California, and northwestern states.

Large farm agriculture is primarily midwestern. It stretches from Ohio-Michigan to the Dakotas, down the Mississippi Delta, and again, down into Texas. Separate blocks of large farm agriculture occur in California and the Washington-Idaho areas.

Smaller farm agriculture exists throughout the southern region, as much as anywhere, and in the Midwest. The western boundary of small farm agriculture tends to drop southward from Minnesota into East Texas. Otherwise, small farm structure can be found in the West Coast States as well.

CONCLUSIONS

As of the early 1980's as well as during the late '60's and the '70's, these dimensions persist. Nearly all farms are family owned regardless of their structural status in the three dimensions and regardless of whether they primarily use nonfamily or machine labor resources.

Maps of the structural dimensions reveal the regional distributions for the three types of structure. While all types may be found in all major U.S. regions, smaller farm, larger farm, and corporate-commercial agriculture—and areas of little agriculture of any kind—seem to spread in waves from east to west across the Nation until they reach the West Coast where all three dimensions coexist.

One may speculate about any possible shifts in the dimensional distribution of agricultural structure among the regions. For example, could less favorable conditions in midwestern corporate-commercial and large farm agriculture result in the expansion of such structural configurations in the South or West? Will water resource problems effect the structure of western and midwestern farming and lead to regional shifts?

Social theory and research must point to further possibilities, not only for specifying the relationships of agriculture with other socioeconomic conditions, but toward the overriding goal of a robust food system for national and international populations. As always, policy must attempt to direct structural trends in agriculture to socially desirable ends. Hopefully, this classification of America's three agricultures has increased the empirical scope and improved the conceptual basis of agricultural structure for theoretical, research, and policy purposes.

AGRICULTURE'S ROLE IN THE ECONOMIC STRUCTURE OF RURAL AMERICA

By Mindy F. Petrulis and Bernal L. Green *

Prior to 1950, agriculture was the primary sector in the economy of rural America. During the 1950's and early 1960's when farm employment was declining and rural nonfarm jobs were scarce, there was a net outmigration of people to urban centers to find employment. Over the last 20 years, however, nonfarm employment has expanded in most rural communities. This expansion in nonfarm jobs has helped rural areas retain their population and attract migrants from urban areas. It also has made most rural communities much less dependent on farming as their principal source of employment income. Not only do fewer people farm today, but even farmers themselves obtain around 60 percent of their total income from nonfarm sources.

Despite the growth of nonfarm job alternatives in nonmetro America since World War II, there still are some 700 nonmetropolitan counties where farm-related earnings constitute at least 20 percent of all county earnings. About a fourth of the Nation's 2.3 million farmers and 13 percent of the nonmetropolitan population live in these counties. These counties produce one-third of the Nation's value of farm production. Nearly one-half of these counties are located in the Northern Plains (185 counties) and in the Corn Belt (134 counties). Their economies are based upon a heavily capitalized farming industry which is affected not only by agricultural conditions such as soil productivity and type of enterprise but also by changing interest rates, foreign exchange rates, and national agricultural policy decisions. Clearly, it is communities in these counties that are most affected by changes in the supply and demand conditions for farm products.

HISTORICAL PERSPECTIVE

Economic history records the transformation of the Nation's economy from one based largely on agriculture to one which relied more and more on manufacturing and more recently to one more oriented toward service-producing industries. For over 200 years, millions of Americans born to farm families or families in small farm-based communities have left their birthplace to find employment in urban industrial centers. The first official U.S. Census of 1790 found that 95 percent of the American population lived in rural areas. By 1980, only about one-fourth of the population lived in rural areas and the majority of these 59 million people followed

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economic pursuits outside agriculture. In fact, less than a tenth of the rural population lived on farms and these 5.6 million farm residents represented only 2.5 percent of the American population.

American agriculture has played a pivotal role in the Nation's economic development. Technological developments in farming have made farmers more productive and also more dependent on purchased inputs and processing and marketing services from the nonfarm economy. Increased productivity in farming greatly reduced the demand for labor in agriculture and thereby created a surplus of farm-born and farm-reared workers. This surplus of labor provided resources for rapid growth of the nonfarm economy. However, demand for labor varied among regions and not all areas of the country were equally successful in providing nonfarm jobs for workers displaced from agriculture. In addition, nonfarm demand for labor has varied over time. The growth of the large manufacturing cities in the Northeast and the Lake States during the late nineteenth century and early decades of this century are examples of the early successes that some areas had in creating new jobs for people leaving farming. Later, scattered metropolitan areas of the Midwest, South, and West also grew and attracted surplus labor from American farms and farm-based communities.

During most of the post-World War II period, many rural areas experienced declining or slow-growing employment opportunities. Between 1940 and 1970, employment increased slowly in nonmetro areas (Table 1). Although many rural jobs opened up in manufacturing, construction, government, and service-producing industries, job losses in agriculture and other natural resource industries such as forestry and mining were largely offsetting. During this period, nonmetro areas were simply unable to generate sufficient jobs to fully absorb additions to their labor forces. As a result, many rural people migrated to metropolitan areas to find jobs. For example, in the 1950's U.S. nonmetro areas gained only one manufacturing job for every three they lost in the natural resource industries. By the 1960's, gains in manufacturing were beginning to offset losses in the natural resource industries. Finally in the late 1960's and early 1970's, a large number of rural communities began to gain sufficient nonfarm jobs to more than offset their losses in farm employment. This turnaround in total employment growth resulted from growth in manufacturing and service-producing jobs in rural America. Increases during the 1970's occurred in service industries, government, manufacturing, construction, and even in the natural resource industries. Manufacturing employment continued to increase rapidly in nonmetro areas during the sixties and seventies while faltering in metro areas. Associated with the rapid employment growth was the well-publicized revival of rural population growth. The population growth rate for the decade of the 1970's was higher (14.4 versus 10.5 percent) in rural and small town communities than in metro areas during the seventies.

TABLE 1.—COMPONENTS OF U.S. NONMETRO EMPLOYMENT CHANGE

[In millions of employees]

Industry	Time period			
	1940-50	1950-60	1960-70	1970-80
Total	2.08	0.26	2.07	5.99
Resource-based	−1.11	−2.34	−1.32	.18
Service and government	1.82	1.68	2.20	4.41
Manufacturing and construction	1.36	.92	1.20	1.40

Source: Bureau of the Census.

AGRICULTURAL TRENDS IN THE 1980's

The current financial distress among farmers, farm lenders, and farm-based communities and regions is rooted in the inflationary conditions of the 1970's and exaggerated expectations of worldwide demand for farm products. These excesses have made it extremely difficult or impossible for many farmers to adjust to the radically different economic conditions of the 1980's. Throughout the 1970's, there was a rapid expansion of U.S. agricultural capacity as farmers took advantage of accelerating inflation and very low to negative real interest rates. The value of the dollar was also declining over the decade, making American products for export increasingly cheaper, and agricultural exports expanded more than five-fold during the period. Farmers responded to these favorable conditions by borrowing heavily to invest in new capital equipment, new and costly production techniques, and increasingly expensive farmland. Farm debt rose, on average, more than 10 percent a year and tripled by 1980. Land values rose even faster, creating the expectation on the part of both farmers and lenders, that investment in agriculture would continue indefinitely to be highly profitable and relatively free of risk. In this environment of rapid expansion, U.S. agricultural production surged and agribusinesses and farm-based communities and regions prospered.

By the early 1980's, the factors that had given rise to economic expansion had reversed direction. Worldwide recession and the rise in the value of the dollar reduced the export demand for U.S. products. At the same time, relatively high loan rates for U.S. farm commodities, which set a floor under domestic prices of government supported farm commodities, provided incentives to other countries to substantially increase their grain supply. By 1984, these factors combined to sharply lower farm commodity prices, reduce farm income, and cut U.S. farm exports by 13 percent from the peak of 1981. On the cost side, farmers were hurt as inflation was slowed by stringent monetary controls, real interest rates rose to unprecedented levels of 8 to 10 percent, and the index of prices paid by farmers began to exceed the index of prices received. As net farm income plummeted, land values also declined because of expectations that returns to farming might be even lower in the future.[1] The debt levels that some farmers had reached during the

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[1] The 1983 USDA's Payment-in-Kind program helped net farm income to more than double in 1984, but this was only an aberration to the 1980's trend of declining net farm income.

1970's were no longer sustainable by their farming operations nor were they acceptable to their lenders in the changed economic environment of the 1980's. By 1985, farmland values had declined 19 percent from their 1981 peak for the Nation as a whole and values in some farm-dependent states and regions had fallen by almost 50 percent. As a result, many farmers who had borrowed heavily to purchase high-priced land and expensive farm machinery in the late 1970's found themselves approaching insolvency.

The sharp deterioration in financial conditions of the farm economy has forced some farmers to curtail operations or to discontinue farming entirely. Of course, the decline in the number of farmers has been an important trend throughout most of the history of U.S. agriculture. But, what is different about today's displacement, as compared with some earlier ones, is the changed characteristics and economic position of the farmers who are leaving agriculture. The rapid reduction in the number of farms and farm population in the 1950's and 1960's was caused mainly by mechanization and other labor-saving innovations, which enabled some farm families to cultivate more land, and the availability of higher income employment which drew low-income agricultural labor into urban areas. Today, displacement is occurring among the larger and more efficient farm operators who made investment decisions based on the favorable economic environment of the 1970's, a situation drastically different from the current environment of low farm prices, declining land values, and pessimism concerning the future of export markets. Because much of the economic distress now is concentrated among mid- and large-sized farms, the current displacement may not be accompanied by a severe decline in the total number of farmers but rather by a change in the ownership of many existing farms. Some regional aspects of the farm crisis, as conditioned by factors affecting expected impacts, are considered in the next section.

IMPLICATION OF FARM FINANCIAL SITUATION FOR FARMING REGIONS AND COMMUNITIES

Impacts of financial conditions in agriculture on regions and communities depend mostly on such factors as (1) the type of farming and the economic health of the farm sector in the region or community, (2) the dependence of the region or community on farming as a source of economic activity, (3) the strength of local farm linkages to agribusiness sectors in the region or community, and (4) the economic health of the overall economy of the region or community.

Economic Health of the Farm Sector

Two major indicators of the economic health of a region's or state's farm sector are farm debt/asset ratios and changes in the value of farmland. According to USDA's Farm Costs and Returns Survey, conducted in the spring of 1985, the Northern Plains, Lake States, and Corn Belt have the highest proportion of highly and very highly leveraged farms. In each of these farm production regions a fourth of the farms are saddled with debt/asset ratios of 40 percent or more (Table 2). The high proportion of farms under financial stress in the Midwest may be explained in part by the region's large number of medium-sized farms which tend to have higher debt/asset ratios, and by the large number of cash grain and dairy farmers who have been particularly hard hit by lower commodity prices. The critical factor, however, has been the sharp decline in farmland values which have reduced asset values and thereby increased debt/asset ratios.

TABLE 2.—DISTRIBUTION OF FARMS BY DEBT/ASSET RATIO AND FARM PRODUCTION REGION, JAN. 1, 1985

[In percent]

Farm production region	Highly leveraged (40–70 percent debt/asset ratio)	Very highly leveraged (70–100 percent debt/asset ratio	Technically insolvent (debt/asset ratio over 100 percent)	Total—highly and very highly leveraged and technically insolvent
United States, total [1]	11.6	4.3	3.0	18.9
Northeast	8.7	2.3	3.0	14.0
Appalachia	7.2	1.3	1.0	9.5
Southeast	7.4	2.7	3.1	13.2
Delta	10.9	2.8	4.1	17.8
Corn Belt	14.6	6.2	3.9	24.7
Lake States	15.8	6.5	3.3	25.6
Northern Plains	16.3	6.5	4.0	26.8
Southern Plains	5.9	3.4	2.1	11.4
Mountain	15.5	4.1	2.5	22.1
Pacific	10.8	2.8	3.2	16.8

[1] U.S. totals do not include Alaska and Hawaii.

Source: Economic Research Service, USDA.

U.S. farmland values had increased 37 percent during 1977 to 81 but then declined by 19 percent during 1981 to 85. The largest declines occurred in the Corn Belt, Northern Plains, and the Lake States which incurred losses of 33 percent or more (Table 3). In Iowa and Nebraska, the average value per acre of farmland dropped more than 45 percent. In these states as well as in Illinois, Indiana, Kansas, and Ohio, the land value declines more than offset the gains made during 1977 to 81. States which have less dependence on farming have had much smaller declines in farmland values since 1981. And, with the exception of Delaware, Maryland, and Pennsylvania, the States of the Northeast have actually experienced continued increases in farmland value.

TABLE 3.—VALUE PER ACRE OF FARMLAND BY PRODUCTION REGION

Farm production region	Year				
	Amount			Change [1]	
	1977	1981	1985	1977–81	1981–85
United States, total [2]	$539	$850	$691	36.6	−18.7
Northeast	901	1,309	1,292	31.2	−1.3
Appalachia	690	1,043	927	33.8	−11.1
Southeast	715	1,097	982	34.8	−10.5
Delta	585	1,142	973	48.8	−14.8
Corn Belt	1,241	1,893	1,069	34.4	−43.5
Lake States	663	1,154	771	42.5	−33.2
Northern Plains	373	542	358	31.2	−33.9
Southern Plains	359	566	732	36.6	29.3
Mountain	231	365	330	36.7	−9.6

TABLE 3.—VALUE PER ACRE OF FARMLAND BY PRODUCTION REGION—Continued

Farm production region	Year				
	Amount			Change [1]	
	1977	1981	1985	1977-81	1981-85
Pacific	774	1,354	1,300	42.8	−4.0

[1] Based on index of average value per acre, 1981 = 100

[2] U.S. totals do not include Alaska and Hawaii.

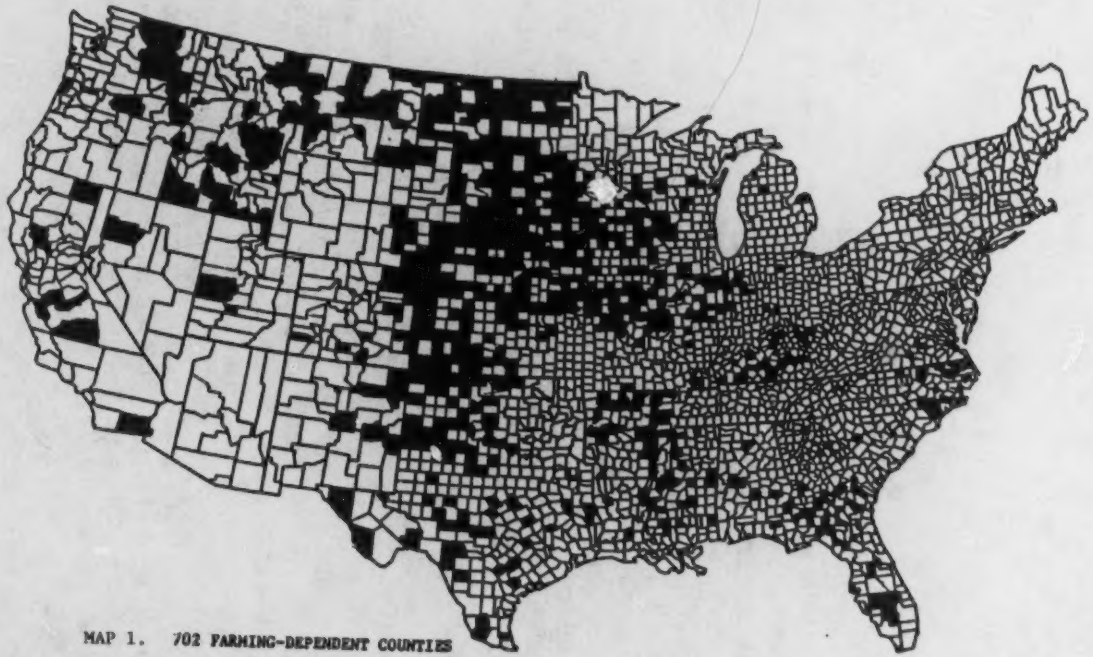
Source: Economic Research Service, USDA.

The recent declines in land values have been a major cause of the financial distress in the farm economy because farmland accounts for about three-fourths of total farm assets. Lower land values have created problems not only for farmers but also for farm related businesses and rural communities. For example, rural banks and credit institutions in farm-dependent areas are faced with a growing volume of problem loans; some local businesses are suffering losses because farmers are unable to pay for goods and services purchased on credit; and, rural communities which rely on farmland for their property tax base face budgetary problems and possible cuts in publicly provided goods and services.

Dependence on Farming

In nonmetro America, there are some 702 counties (out of 2,443 nonmetro counties) where farming plays a dominant role in the economic vitality of rural communities (Map 1). These farm-dependent counties are concentrated in the Great Plains portion of the North Central Region. Smaller concentrations are found along the Mississippi River Delta in Arkansas, Mississippi and Louisiana; in south Georgia; and in Montana, Idaho, and Washington. The farm-dependent counties received a fifth or more of their labor and proprietor's income from production agriculture during the five years, 1975 to 79. In more than 200 of these counties concentrated in the western Corn Belt and Great Plains, nearly 50 percent of their earnings is from farming and ranching.

NONMETRO AGRICULTURE COUNTIES



MAP 1. 702 FARMING-DEPENDENT COUNTIES

20 percent or more of total labor and proprietor income was from production farming/ranching during 1975-79.

■ NONMETRO AGRICULTURE

Between 1970 and 1980, the population of farm-dependent counties grew only 8.0 percent, compared with 17.0 percent for other nonmetro counties (Table 4). Moreover, as farm financial conditions worsened during the 1980 to 84 period, over half of the farm-dependent counties lost population. Thus, it appears that demographic changes are closely linked to agriculture in farm-dependent areas. Farm-dependent counties also have small, widely-dispersed populations which make it difficult for many of them to provide adequate public infrastructure to support job growth in industries not directly linked to agriculture.

TABLE 4.—SELECTED DEMOGRAPHIC AND ECONOMIC VARIABLES FOR FARM-DEPENDENT COUNTIES, ARRAYED BY THIRDS BASED ON DEGREE OF DEPENDENCE ON FARMING

Variables	Farm-dependent counties [1]			Other nonmetro counties
	Top [2] third	Middle third	Bottom third	
Demographic:				
Population change:				
1960–70 (percent)	−9.3	−4.4	−0.7	5.9
1970–80 (percent)	0.3	7.8	11.6	17.0
1980–84 (percent)	0.0	3.1	3.2	3.8
Average population, 1980 (thousands)	6.8	12.4	16.6	31.1
Population per square mile, 1980 (number)	10	19	25	51
Population aged 25 and over who completed high school, 1980 (percent)	60	58	56	57
Population aged 65 and over, 1980 (percent)	16.3	15.6	15.4	13.3
Economic structure:				
Percentage of income from:				
Farming, 1975–79 (percent)	46	32	23	8
Manufacturing, 1979 (percent)	5	10	16	25
Percentage of farmers who worked 100 days or more off-farm, 1978 (percent)	28	30	35	45
Economic well-being:				
Per capita personal income, 1980 (dollars)	8,398	7,396	7,256	7,311
Per capita transfer payments, 1979 [3] (dollars)	1,025	1,038	1,071	1,071
Per capita Federal outlays for commodity agriculture, 1980 (dollars)	362	172	140	34
Per capita total Federal outlays, 1980 (dollars)	1,648	1,429	1,393	1,494

[1] Labor and proprietor income [LPI] accounted for 20 percent or more of total county LPI during 1975 to 1979. There are 234 counties in each of the 3 groups of farm-dependent counties and 1,741 other nonmetro counties.

[2] LPI from farming in the top 3d group was 37 percent or more of total county income. For the middle 3d, it was 27 to 37 percent, and for the bottom 3d it was 20 to 27 percent.

[3] These are characterized by Social Security and Medicare. They do not include Federal farm subsidy payments.

[4] Population growth rates are based on weighted averages.

Farm-dependent counties receive on average over a third of their earnings from farming as compared with under a tenth for the other nonmetro counties. Manufacturing accounts for only 10 percent of income in the farm-dependent counties. The lack of economic opportunities outside agriculture in these farm-based economies prevents many farm families from getting off-farm jobs to supplement family income. This situation becomes especially critical when income from farming is declining. The concentration of farming people in the farm-dependent communities also connotes specialized assets (e.g., physical and human capital oriented towards farming) that have limited use in other sectors of the economy. This limitation and the relatively high proportion of young and elderly in the population make it difficult for farm-dependent communities to diversify economic activity.

Linkage of Farming to Rural Areas

The overall impact of agriculture on the local nonfarm economy depends on the size of the farm sector and how closely it is linked to the nonfarm sector. The impact will be less where the role of production agriculture is small in the local economy. It will also be less where farmers typically bypass local communities to purchase inputs or household items in larger, more distant trade centers, or where farm products and livestock leave the local area before much additional processing takes place.

The food and fiber system accounts for nearly one-third of the jobs in nonmetro America (Table 5).[2] Of the 6.3 million nonmetro jobs associated with agriculture, about 45 percent, or 2.8 million, are in farming. Most of the other food and fiber jobs are in agricultural input industries (4 percent), agricultural marketing and processing industries (18 percent), and food and fiber wholesaling and retailing (26 percent).

TABLE 5.—AGRICULTURAL EMPLOYMENT LINKAGES IN THE NONMETROPOLITAN AREAS OF FARM PRODUCTION REGIONS, 1982

[Percent of total employment]

Farm production region	Farm sector [1]	Agricultural linkages			Final consumption linkages Food and fiber wholesaling and retailing (forward linkages)	Total agriculture related employment [2]
		Input industries (backward linkages)	Processing and marketing industries (forward linkages)	Total agribusiness linkages		
United States, total	14.7	1.2	6.0	7.2	8.5	32.8
Northeast	6.9	0.5	5.2	5.7	9.1	27.4
Appalachia	13.8	0.7	10.3	11.0	7.2	34.3
Southeast	12.6	1.0	11.8	12.8	7.6	35.5
Delta	15.3	1.2	7.1	8.3	7.3	33.0
Corn Belt	16.4	1.9	3.9	5.8	8.4	33.4
Lake States	17.6	1.6	3.9	5.5	9.6	35.6
Northern Plains	21.9	2.5	4.3	6.8	8.3	38.3
Southern Plains	19.6	1.2	3.8	5.0	8.5	34.9
Mountain	11.2	1.4	2.3	3.7	10.5	26.4
Pacific	15.4	1.0	2.5	3.5	10.8	31.7

[1] Includes agricultural services and farm proprietors and wage and salary workers.
[2] Total includes employment in secondary or indirectly related agribusinesses.

Source: Economic Research Service, USDA

The agricultural complex is most important for the nonmetro economies of the Northern Plains where the farm sector, agricultural input industries, agricultural processing and marketing industries, and food and fiber wholesaling and retailing together accounted for about 38 percent of local nonmetro employment in 1982. In the other agricultural production regions, this percentage ranges from a high of about 36 percent in the Lake States and the Southeast to a low of about 26 percent in the Mountain region.

Agricultural production has strong forward linkages to the transportation, processing, and marketing industries and backward linkages to industries providing inputs to farmers. In the Midwest and South, the agribusiness sector is heavily concentrated in the nonmetropolitan areas of the Northern Plains and the Delta (Table 6). Some 75 percent of all jobs in agricultural input industries in the Northern Plains are located in nonmetro counties, compared with 50 percent in the Lake States and 46 percent in the Corn Belt. The nonmetro counties also have 62 percent of the total jobs in the agricultural processing and marketing industries in the Northern Plains as compared to about 35 percent in the Lake States and the Corn Belt. In the Northern Plains, half the jobs in the food and fiber related wholesale and retail trade are located in nonmetro areas although, nationally, these industries tend to be highly concentrated in the metro areas. In the South, the agricultural complex is most heavily concentrated in nonmetro areas of the Delta States where these counties have 63 percent of the jobs in agricultural input industries, 71 percent in agricultural processing and marketing industries, and 36 percent in food and fiber related wholesale and retail trade. In the other subregion of the South, the Appalachian, Southeastern, and Southern Plains States, only about 31 percent of the agribusiness employment is in nonmetro areas.

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[2] The food and fiber system includes employment in farming and in all business required to support the production and eventual delivery of food, clothing, shoes, and tobacco to domestic and foreign consumers.

TABLE 6.—THE NONMETRO SHARE OF AGRICULTURALLY RELATED EMPLOYMENT, 1982

[In percent]

Farm production region	Farm sector [1]	Agriculture input industries	Agriculture processing and marketing industries	Food and fiber wholesaling and retail trade	Total agriculturally related employment [2]
United States, total	64.9	48.0	34.0	18.4	32.4
Northeast	37.7	25.0	13.0	9.1	11.5
Appalachia	73.2	57.1	51.4	31.6	49.1
Southeast	59.7	60.1	50.0	17.3	34.9
Delta	83.2	63.4	70.9	36.5	60.1
Corn Belt	71.8	46.3	34.3	20.8	36.5
Lake States	68.4	50.4	37.6	22.6	37.9
Northern Plains	91.4	74.9	62.0	49.8	71.1
Southern Plains	71.8	51.0	27.9	16.9	33.6
Mountain	76.8	71.8	41.8	33.3	45.8
Pacific	29.3	21.8	7.1	8.0	12.3

[1] Includes agricultural services and farm proprietors and wage and salary workers.
[2] Total includes employment in secondary or indirectly related agribusinesses.

Health of the Local and Regional Economy

Economic stresses stemming from problems in agriculture can be offset, to some extent, by expansion in off-farm economic opportunities. This is especially true for the small- and medium-size farm operators who rely on the nonfarm economy for most of their employment and income. The relative importance of total farm income earned from off-farm sources has increased in the United States, from an average of about 40 percent in 1960, to 55 percent in 1979, and around 60 percent since 1981. This dramatic increase in the reliance on off-farm income obviously dampens the impact of farm-related stress for many communities, States, and regions. The nonfarm sector provides more of a safety net for economically stressed farm families in the more densely-populated and smaller-farm regions such as the Northeast and the South where off-farm income accounted for 64 percent of total farm income in 1979 than in the sparsely-settled Midwest and West where 47 percent of total farm income came from off-farm sources (Table 7).

TABLE 7.—TOTAL NET CASH INCOME, NET CASH FARM INCOME, AND OFF-FARM INCOME BY AGRICULTURAL PRODUCTION REGION, 1979

Farm production region	Net cash income (millions)	Percent of net cash income	
		Net cash farm income	Off-farm income
United States, total [1]	$59,735	45.3	54.7
Northeast	4,236	37.9	62.1
Appalachia	6,767	30.5	69.5
Southeast	5,015	40.3	59.7
Delta	3,442	40.2	59.8
Corn Belt	12,518	47.0	53.0
Lake States	5,671	52.3	47.7
Northern Plains	5,206	62.0	38.0
Southern Plains	6,659	34.9	65.1
Mountain	3,721	51.5	48.5
Pacific	6,501	56.5	43.5

[1] U.S. totals do not include Alaska and Hawaii.

Source: Census of Agriculture, 1978.

Industrial and professional wages and salaries is the largest component of off-farm income. This component accounted for nearly two-thirds of off-farm income for farmers and their families in 1979 (Table 8). Other major sources of off-farm income include interest and dividends (14 percent), retirement and public assistance (9 percent), and nonfarm business (9 percent). Wages and salaries from nonfarm jobs is a relatively less important source of income (about 10 percentage points lower) for farmers and their families in the Northern and Southern Plains and in the West than in the other farm production regions. Where geographic areas have large and growing nonfarm sources of income and employment, as in the Northeast and the South during the 1970's, adverse impacts of declines in farm and farm-related activities can be offset, at least partially, by the growth of other sectors.

TABLE 8.—OFF-FARM INCOME OF FARM OPERATORS AND MEMBERS OF THEIR FAMILY BY SOURCE, 1979

[In percent]

Farm production region	Nonfarm jobs or professions	Farm work	Nonfarm business or professional practice	Interest, dividends and other money income	Retirement, disability and public assistance	Total [1]
United States, total [2]	64.8	3.3	8.8	14.1	9.0	100.0
Northeast	67.3	2.5	10.2	12.6	7.4	100.0
Appalachia	68.2	2.0	8.0	11.5	10.3	100.0
Southeast	66.3	3.1	7.9	12.8	9.8	100.0
Delta	67.3	2.5	7.7	11.9	10.7	100.0
Corn Belt	67.9	3.9	7.7	12.9	7.6	100.0
Lake States	68.5	3.2	6.8	12.2	9.2	100.0
Northern Plains	58.8	4.7	9.3	18.7	8.5	100.0
Southern Plains	61.9	2.8	8.4	16.8	10.0	100.0
Mountain	57.0	4.5	11.9	17.3	8.5	100.0
Pacific	55.3	4.8	13.2	18.4	8.2	100.0

[1] Detail may not add to total due to rounding.
[2] U.S. totals do not include Alaska and Hawaii.

Source: Census of Agriculture, 1978.

Historically, the continued movement of large numbers of workers out of farming occurred because of gains in farm productivity and the creation of attractive nonfarm jobs. However, overall economic growth during the early 1980's has been extremely weak in today's most farm-dependent States and regions. Economic revival in the farm-dependent states and regions has been slowed not only by the depressed farm sector but also by the sluggish recovery of other industries, especially manufacturing, from the 1980 and the 1981 to 82 recessions. Slow or negative growth in nonfarm industries has made it difficult for farmers who rely on the nonfarm economy to supplement their farm income and at the same time has prevented workers displaced from farming and farm-related businesses from finding other jobs. For instance, during the 1980 to 82 downturns, total employment in nonmetropolitan counties of the Corn Belt decreased 5.7 percent while total employment in the U.S. economy increased 0.8 percent (Table 9). And, in the 1982 to 84 upturn, nonmetro employment growth in the Corn Belt continued to lag the overall employment growth rate of the U.S. economy (1.6 versus 5.3 percent). Moreover, the unemployment rate in the nonmetro areas of the Corn Belt continued to exceed the national rate by almost two percentage points in 1982 and 1984. Population growth has also stagnated in nonmetro areas of the more farm-dependent regions. The nonmetro areas of the Corn Belt and Lake States have actually experienced population losses since 1980.

TABLE 9.—EMPLOYMENT AND UNEMPLOYMENT CHANGE IN NONMETROPOLITAN COUNTIES AND IN THE UNITED STATES, 1979 TO 1984

[In percent]

Farm production region	Employment change		Unemployment rate		
	1979–82	1982–84	1979	1982	1984
United States, total [1]	0.8	5.3	5.8	9.7	7.5
Northeast	−1.8	4.2	7.0	10.6	8.1
Appalachia	−2.9	4.5	6.4	12.4	10.2
Southeast	1.5	5.1	6.3	11.7	8.9
Delta	−1.1	2.2	6.8	11.8	11.2
Corn Belt	−5.7	1.6	5.7	11.8	9.6
Lake States	−2.3	2.2	6.5	12.3	10.2
Northern Plains	−1.2	1.5	3.1	5.8	4.9
Southern Plains	11.0	3.5	4.0	6.8	6.7
Mountain	5.1	3.8	5.7	10.2	8.0
Pacific	−1.2	2.9	9.6	15.1	12.8

[1] Includes nonmetropolitan and metropolitan areas.

Source: "Employment and Earnings," U.S. Department of Labor.

State employment figures for the Corn Belt, Northern Plains and Lake States indicate the pervasive nature of diminished economic performance in these regions, particularly in the Corn Belt states. Whereas U.S. employment increased 11.1 percent for the three-year period ending October, 1985, employment in much of the Cornbelt increased less than half the U.S. rate after declining dramatically from the business cycle peak in January of 1980. In Iowa, for instance, where manufacturing is closely linked to agriculture (meat processing, farm machinery), manufacturing employment was up only 3.5 percent in October of 1985 from the recessionary levels three years earlier (Table 10).

TABLE 10.—RECENT EMPLOYMENT TRENDS IN THE STATES OF THE MIDWEST

[Percent change]

	Employment change from July 1981 (peak before the 1981-82 recession) to October 1985		Employment change from November 1982 (trough of the 1981-82 recession) to October 1985	
	Total	Manufacturing	Total	Manufacturing
United States	7.3	−5.8	11.1	6.4
Illinois	−3.2	−20.0	3.3	−1.3
Iowa	1.0	−11.8	2.8	3.5
Ohio	1.2	−10.9	6.0	3.8
Michigan	1.2	−5.3	9.1	16.2
North Dakota	2.8	1.9	0.4	7.5
Wisconsin	3.3	−8.1	8.2	15.7
Nebraska	3.8	−8.7	7.0	7.0
South Dakota	4.8	−11.0	6.4	−5.3
Missouri	4.4	0.9	4.8	6.8
Kansas	2.6	−5.4	7.9	11.7
Indiana	7.1	−5.9	13.1	11.3
Minnesota	9.1	0.3	12.5	12.0

Source: "Employment and Earnings," U.S. Department of Labor.

IMPLICATIONS

Resource adjustments in response to lower commodity prices, lower farmland values, and higher real interest rates are the result of a number of factors. For farmers, many of the factors are outside their control, e.g., climate, soil type, local industrial structure, and national and international economic conditions. Similarly, rural communities that depend heavily on farming have many specialized human and business assets that may not be useful elsewhere in the economy. However, it is likely that major economic dislocations in rural America will be largely confined to the Midwest and to the Delta subregions of the South. Even in the Midwest, the effects will be extremely uneven because dependence on agriculture is so varied. But it is quite clear that adjustments will be most severe for those who live in the several hundred sparsely-settled specialized farming areas which are highly concentrated in a few states.

The transition to a more diversified economy in farm-dependent counties will be difficult at best. It is made difficult by the small population of the farm-dependent counties, their geographic concentration in areas distant from most major urban markets, and their pattern of population decline which has left them with a highly dependent population structure (i.e., a high proportion of the young and elderly).

During the past 30 years, the economic structure of rural America as a whole has become more diversified, significantly reducing its overall vulnerability to changes in natural resource markets, commodity prices, and farm conditions. For most rural citizens, the economic future is now more tied to overall national growth than to any one sector's success or failure. But this is not the case for the residents of farm-dependent rural counties or for other individuals whose economic fortunes are directly tied to agriculture.

A FARM POLICY ALTERNATIVE

By I. M. Baill*

In order to achieve the long-standing policy goal of assuring farmers adequate incomes from their farming activities, Congress has appropriated steadily increasing billions of dollars. Although farmers have prospered in times of strong international and domestic demand for their products, governmentally mandated support programs in times of market surplus have been increasingly costly and decreasingly effective. This situation has been a spur to search for alternative ways to maintain farm economic health.

A possible alternative approach is discussed here. It is based on the premise that agriculture must make every effort to remain or become competitive in world markets where other nations are increasing their agricultural output. The present programs that tend to keep support levels above world market prices for foodstuffs in excess of the needs of domestic markets adds to total support program costs and requires additional funds for storage or export subsidies. These aspects of present programs are generating steadily increasing taxpayer resistance but despite this there are as yet no substantial policy changes on the horizon.

Remaining competitive in world markets means that farmers must do everything possible to keep production costs down. Thus the trend to higher land and other farm capital prices must be curtailed. Unfortunately for many farmers, this means that ongoing trends to larger, more efficient farms will continue and many less-efficient, smaller farms will disappear or will become supplements to non farm jobs because their operators will no longer be able to sustain themselves completely from farming only. On the other hand, continuing massive payments to farmers would lessen but not eliminate farm economic distress.

What is proposed here is a three-part program to move farming to a market oriented environment. The first part deals with giving added resources to developing alternative income sources for less than full-time farmers and other rural residents. By adding to the economic base of farm-dependent communities, this program would also ameliorate the economic trauma experienced by private business and local units of government when farm problems develop. The second part of the program would maintain research and development and other activities that help farmers remain efficient and competitive in world markets. This could also be coupled with soil and water conservation and environmental protection programs which maintains the national farm productive capacity. The third part is designed to reduce overhead costs of the most heavily debt burdened farmers so that they might either remain in farming or make an easier transition to other occupational endeavors. This program would also reduce costs for other farmers as well.

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Current agricultural policy goals and programs call for government actions that assure farmers fair prices for the goods they sell, while at the same time enabling consumers to obtain adequate supplies of farm products at fair prices. Another goal, more important earlier in history but still significant, was to rely on farming as a major source of export earnings. Throughout this century, American agriculture has been a major factor in world farm coimmodity markets and has often been called upon to supply massive amounts of foodstuffs for foreign emergencies as Post World War II rebuilding and most recently North African drought relief. The productive capacity of American agriculture has also made it unnecessary to undertake any domestic action to protect consumers from unfairly high prices received by farmers. In fact, activities to protect consumer interests have by and large been concentrated on the middlemen who transport, process, and distribute farm products instead of the farmer.

For more than a half century, Congress has legislated and the Department of Agriculture has administered programs such as farm commodity supply limitation, price support, marketing orders, storage, surplus, destruction, foreign and domestic giveaway, food stamp, foreign and domestic market development, payment in kind, and others designed principally or incidentally to bring and maintain agricultural commodity prices received by farmers to "fair" levels. Over the same time, farmer productivity has increased dramatically, far more than that of all nonfarm or of industrial workers and total farm output, including output of commodities targeted by legislation, has continually set new records. The result has been ample supplies for domestic and foreign needs and a current record surplus of commodities glutting the market. Unhappily, these actions have not resulted in the "fair levels" of prices to farmers that they were designed to insure. Farmers income from farming and prices of farm commodities have averaged well below "parity" or subsequent "fairness" levels since the 1930's. Today, as some 200,000 farmers—mostly substantial producers—face personal economic catastrophe, new record crops are in sight.

Government sponsored R&D and private innovations introduced advanced technology into farming, including large-scale machinery, hybrid seed, fertilizers, and chemicals. These innovations were responsible for productivity increases and lowered production costs. As a result, neither this nation nor the world has wanted for farm commodities. At least, the policy goals of adequate supplies and affordable consumer prices have been realized.

Although these two goals have been attained, the producer goal of "fair" prices and income has been reached only from time to time and only for part of the producers. Attempts to reach this goal through price supports, etc., have consumed vast sums of public money without any real progress being made and the original definition of "fair" commodity prices has been changed numerous times as each prior definition became more costly to achieve and resulted in greater amounts of unneeded commodities.

Setting aside the debate over what is a "fair" income or a fair price, we can observe that many farmers—over 200,000, according to recent USDA estimates—are in deep financial trouble because farm prices have not fairly compensated them for their costs. At the same time, the surplus of farm commodities continues to grow unabated, adding billions to the taxpayers costs of the present program to assure farmers fair prices and incomes. It would seem that farm commodity prices and farm incomes seem to bear little relation to farm output. Perhaps because of the price support and commodity storage programs, farmers have never faced a situation where not to produce made the most economic sense than producing.

In view of current crop projections and the volume of private and governmentally-owned commodites, there is no supply risk if all forms of price support and commodity storage programs were completely abolished. This could result in lower prices for farm products and savings of taxpayer's dollars, both benefitting the 97 percent of the population that are nonfarmers. The abrupt removal of present farm price support procedures would worsen the present crisis for farmers from presently distressed levels and could lead to complete disaster for many more farm operator households than are now suffering. The social and political consequences of this action would be so severe that it is almost certain not to be considered. A gradual phase-down of price support levels, also proposed as a means of putting agriculture in the free market, is probably a worse remedy as farmers may well attempt to delay their adjustment to any decline in price support levels. During the first years of any phase-down period, American farm product prices are likely to remain non-competitive in world markets and commodity stockpiles are likely to grow to further record highs.

Continuing price support and commodity storage programs will result in heavy public outlays into the indefinite future, especially as additional foreign sources of supply continue to expand (Brazilian soybeans, Argentine wheat, Zimbabwe tobacco, etc.) As additional supplies are produced in other countries, support prices for domestic producers may well remain above international market prices. Selling abroad would involve costs in the form of export subsidies in addition to the original costs of price supports. Export subsidies may also encourage protectionist actions by other nations and worsen the present international debt situation.

The alternative of limiting price supports to that part of the crop used domestically would be particularly unpopular for producers of crops such as wheat and rice, where large proportions of the crop are sold abroad. Administrative oversight of a two price policy is also likely to be troublesome. If domestic prices are held substantially above international market levels, a difficult choice between permitting imports or establishing a strong protectionist measures may have to be faced.

To summarize, past and prospective changes in the nature of agricultural production have created an environment where the costs of maintaining farm operator income are likely to continue to rise and will be less and less effective. Meanwhile, whether or not these programs are continued, the global supply of farm commodities is likely to be more than adequate and prices are likely to remain low.

During the past half century, most farmers have faced up to what has been happening to agriculture and have made their own adjustments. Some 4 million farmers have completely abandoned farming since the mid-thirties, most of them moving to nonfarm jobs even though many have remained rural residents. Most of the current 2.3 million farmers have combined farm and nonfarm jobs to maintain economically viable households, principally dependent on off-farm income. A third group has kept up with technology and farm size trends in order to keep unit costs low and remain solid farm business enterprises. Others, recently moving up to mid-size farm ownership, or having delayed expansion until after world commodity prices peaked, have found themselves in a cruel financial squeeze of high land costs, high interest rates, and low commodity prices. These are the farm operators with acute problems needing near term relief.

To switch from a highly subsidized income or price support program to a viable market oriented farm economy requires a transition period where appropriate adjustments can take place. Separately designed governmental assistance directed to different types of farmers should result in a stronger agriculture and economically heathier rural communities, preserving and enhancing the benefits of rural living for farmers and nonfarmers alike. Recommendations for different types of farms are as follows.

SMALL FARMS

First, and by far the largest category (about two-thirds of all farms) is that of small farms, those with sales of $10,000 or less. These farms had, as a class, negative net incomes in 1982. But even in good years net incomes would only be about one-fourth of sales, and for the largest farms in this category this would amount to one-third of the earnings of a full-time worker being paid the minimum wage. The point is that at least two-thirds of all present farms are secondary sources of income for their operators. Further, these small farms are basically in sound financial condition with less than 10 percent having debt to asset ratios exceeding 40 percent (the USDA threshold of financial stress for farmers). Only about three in 100 of these small farms had debt to asset ratios greater than 70 percent (the USDA threshold for severe economic stress). Since they are supplemental sources of income, the major economic orientation of these farms is toward nonfarm jobs or businesses. Changes in farm price support programs affect total household income only slightly and while eliminating such programs may result in output reduction from these smaller farms, such an action is not likely to materially affect their economic viability. Alternative government assistance replacing price support benefits for this category of farmer would be most effective in the form of expanding existing efforts to increase and upgrade non-farm job opportunities in rural areas. Such modest supplemental support of state and local economic development activities would materially help to diversify and stabilize nonfarm enterprises in rural areas. Also, continuing Department of Agriculture R&D and extension activities would help these small farmers improve their farm efficiency and operating margins.

LARGE FARMS

At the other end of the spectrum are the so-called super farms, the largest size category. There were 30,000 of these farms in 1984. These farms include corporate farms and extremely large scale family enterprises, with sales of $500,000 or more. They produced 30 percent of all U.S. farm product value and received 60 percent of all farm net income in 1982. They make most efficient use of large-sized specialized equipment and benefit most from economies of scale. Their average production costs are the lowest of all farm size categories. They are also capable of producing goods that can be sold at a profit on world markets with production costs equal to or lower than those in most other exporting nations.

These most efficient producers are also the greatest beneficiaries of present price support and commodity storage programs. Proportionately, they are the fastest growing segment of agriculture, increasing six-fold from 1968 to 1982, and are the most capable of adjusting to a market-oriented economy instead of the present price support environment because of their efficient use of land and equipment. By early 1985, about one in nine of this farm size class (approximately 3,400 farms) had debt to asset ratios greater than 70 percent. However, the USDA finds that large scale farmers are best able to manage heavy debt loads. Their labor costs are a very small proportion of total costs and specialized farm equipment costs may be lower in this country than in other exporting nations. Also, they are likely to have access to borrowed money on better terms than their domestic and foreign competitors. These large scale enterprises can make best use of farm storage and commodity markets in order to assure themselves of adequate returns. The average value of these super-farms was $3.1 million in 1978. Their growth rate, size and income clearly suggest that this segment of agriculture can survive and even prosper in an environment devoid of price supports and with expanding foreign competition in world markets.

Policies for this group of farmers should focus on activities that will enable them to remain low cost producers. This would include continued government financed R&D in genetics, equipment and agricultural chemicals. Accelerated depreciation and Investment Tax Credits would also be of great benefit.

MID-SIZED AND CRISIS FARMERS

Much of the current farm economic crisis is concentrated in the mid-sized group, that is the one-fourth of all farms large enough to be able to produce a significant part of the operators income but not large enough to realize maximum efficiencies of scale or equipment. Most of the over 200,000 severly stressed farms are in this category. This group contains a large proportion of the 90,000 delinquent Farmers Home Administration borrowers that are now subject to foreclosure following the end of a two year moratorium, and it is particularly unfortunate that this group also includes many younger farmers. Many of these young farmers start with limited capital and find it necessary to borrow heavily to start their enterprise, but as technology has advanced, the average size of a farm needed to maximize efficiency has steadily increased so that initial capital requirements have steadily expanded. Inheritance or intra-family sale of only part of a mid-sized farm assembled a few decades ago is not a large enough unit to assure economic viability. A different mix of policies is appropriate here.

Improved technology makes it possible to increase the size of farms that can be managed as a second income. Therefore, policies to improve the availability of off-farm jobs will materially aid many mid-sized farm operators. It is especially important to undertake pilot projects and other activities to develop nonfarm jobs in as many as possible of the more than 325 farm-dependent counties where there are no incorporated towns of 2,500 or more people and are not adjacent to a Standard Metropolitan Statistical Area (SMSA). Other policies directed to economically stressed mid-sized farmers and to farmers who aspire to become large scale operators are also needed.

One of the reasons that price support and commodity storage programs have failed to bring farm operators incomes up to fair or parity levels has been that increased price support levels have been promptly capitalized into higher prices that farmers pay, especially prices paid for farm land. For many farmers, interest costs, on heavily mortgaged land, particularly if the mortgages carried high interest rates, when added to other production costs raise total costs per unit of output above domestic and international market prices and above support prices. This part of the discussion focuses on ways to reduce production costs as a preferred alternative means of improving farm income.

One way to enable a debt stressed farmer to reduce costs would be to establish a Federal program that would exchange land and equipment debt service for market priced rents. For many farmers this would make it possible to reduce production costs to a level where they would be solvent. To establish such a program, farmers should be prepared to temporarily give up ownership in exchange for preferential rights to rent and later repurchase their farms. A Federal subsidy of a *portion* of the difference between rental payments and prevailing interest rates would materially lower production costs. The farmer would have a specified time within which to begin to pay down his debts and a longer period to arrange refinancing. A continuing modest level of inflation (3 to 5 percent annually) and further decreases in the value of the dollar may well lead to an increase in land values over the next 10 to 15 years, and to a better competitive position for U.S. commodities in world markets. Some farmers may wish to rent (and repurchase) just their residences or only a part of the land previously owned. Others may choose to go out of business.

The USDA estimates some 214,000 heavily indebted farmers are not earning enough cash to cover production expenses, interest and principal payments and family living expenses. They account for about $100 billion (45 percent) of all farm debt. Assuming an average interest rate as high as 15 percent for the debt and that rental payments (or value of crop share) would amount to only one-third of these interest costs, the total subsidy cost of an interest guarantee program would be about $10 billion per year if all highly stressed farmers elected to utilize such a program. Such a Federal interest guarantee program could be tied to efforts to reduce interest rates on all farmer mortgages and loans, resulting in further farm production cost savings.

There are several advantages, other than reduced production costs, of this approach. First of all, local banks and other creditors would have the value of their loan portfolio stabilized so that they themselves would not face bankruptcy. By reducing cash drains on farmers who elect the program, money is freed up for other local expenditures, thereby reducing the crisis faced by local businessmen in rural areas. By separately improving the availability of non-farm jobs by other means (see above), an interest guarantee program could result in a large supply of land for rent being made available to farmers best able to profit from larger scale operations.

By providing benefits only to the most heavily stressed farmers, total government farm program costs are reduced. However, all farmers would benefit from the general reduction in commodity production costs. Treating the Farm Credit Administration debt in this fashion would be less costly than a proposed asset liquidation program and would substantially improve the ability of the FCA debtors to repay what they owe. Voluntary participation in an interest guarantee program is much preferable to a mass of involuntary foreclosures. Appropriate requirements regarding compliance with approved Soil Conservation practices could also become part of the program. It is likely that without price and income support programs, land values might fall to levels where conventional financing would not raise production costs to levels about market prices. Such lower costs would help farmers to again become competitors in world markets.

An additional Federal action would be particularly appropriate at this transition time. That is to dispose of government owned stockpiles and terminate commodity purchase programs, at least those funded from general revenues. As in the payments-in-kind programs, farmers would receive commodities from government stockpiles in exchange for agreeing not to produce. For maximum effectiveness in reducing surpluses and farm production costs, individual farmers should be required to reduce output by more than they receive from the stockpile, e.g., in order to receive 1,000 bushels of corn, a farmer might be required to reduce output by a larger amount. By limiting the maximum an individual farmer could receive from the stockpile, most benefits of the stockpile disposal program would accrue to mid-sized farms including those participating in an interest guarantee program. Larger farms would also benefit from higher market prices that would follow final disposition of commodity stockpiles. The presence of massive grain trading corporations, exensive farm storage facilities and sizeable farm marketing cooperatives assure that the private sector is capable of absorbing large crops and maintaining adequate carry-over reserves from one year to another. Instead of accumulating commodity stockpiles, the government could assure that credit would be available to finance on-farm or farmer-owned storage at a reasonable fraction of market price. Faced with receiving only partial or reduced returns for commodities produced in excess of market needs, prudent farmers would be likely to reduce output in a year following large private stockpile accumulation.

CONCLUSION

These suggested programs are attempts to ease the shift from unsuccessful costly and unending support and storage programs to a market driven economy. Neither past programs nor those suggested here, or any other reasonably priced alternatives, are capable of restoring all farms to economic health. The long-term trends of declining farm numbers and increasing farm size means that there will be fewer, but larger, full-time farm enterprises. The aim of future policy should be to provide an environment where a high proportion of these enterprises can operate in and benefit from the functioning of a free market. A second policy goal should deal with economic diversification of rural communities so that farming and mixed farm-nonfarm enterprises may flourish and provide good livelihoods for all of rural America.

FOOD SECURITY IN THE UNITED STATES: MYTH OR REALITY[*]

By William B. Lacy and Lawrence Busch[**]

Food security is a necessary though not sufficient condition for the success of a civilization. As recent archaeological evidence demonstrates, ancient civilizations rose and fell based upon their ability to maintain a secure, stable food supply (Deewey *et al.*, 1979). Conceptually, the problem of food security has been with us at least since Malthus. In the last century the frightening spector that population demand might outstrip the food supply has arisen at least once every decade.

Indeed, over the last 10 years, growth in world food production has slowed, raising renewed doubts about the long-term food prospect. Despite technological advances, the effort to feed all the world is at a standstill. In fact, in some parts of the world, such as Africa, the food situation is actually deteriorating. There, a 1 percent annual decline in per capita grain output since 1967 was further aggravated by the drought of 1983 and 1984, resulting in approximately a fifth of Africa's people being sustained by imported grain (Brown, 1985).

In contrast, U.S. agricultural production has outstripped population growth for at least a century. Indeed, American agriculture produces a larger surplus every year than that of any other country in the world. Agricultural products rank first among all U.S. exports and U.S. agricultural exports are almost equal to those of all other nations combined. Thus, this Nation has supplied not only its own needs but a substantial portion of the world's food, feed, and fiber.

There appears, however, to be trouble amidst this bounty. For example, the U.S. crop surpluses of the early eighties, often cited as a sign of a healthy U.S. agriculture, are partly the product of questionable land management. The very practices that yield short-term production gains or even surpluses lead to excessive erosion. Recently, a number of scientists and policy analysts have suggested that U.S. agriculture and rural America are entering an era of limits and critical choices, requiring significant adjustments in the use of resources to ensure long-term sustainability of our food system (Brown, 1985; Busch and Lacy, 1984; Douglass, 1984). While our food supply is probably secure for the next decade, the complexity of our Nation's food system may serve to mask fundamental problems of long-term U.S. food security and sustainability.

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[*] This chapter builds on the framework outlined in L. Busch and W. B. Lacy, "Introduction: What does food security mean?" in L. Busch and W. B. Lacy (eds.), *Food Security in the United States* (1984). We wish to thank Dr. Laura Lacy for her helpful comments and suggestions and Carol Calenberg for her assistance in the manuscript preparation.

DEFINITION

Food security has been defined in many ways. For example, the Food and Agriculture Organization's 'World Food Security Compact' states that "the ultimate objective of food security is to ensure that all people at all times are in a position to produce or procure the basic food they need" and that it should be an integral objective of economic and social plans (Food and Agriculture Organization, 1985). For the purpose of this discussion, U.S. food security is viewed broadly to include at least three important dimensions: availability, adequacy, and accessibility.

While some may view availability simply in terms of sufficient production, we propose that availability should encompass the concept of food sufficiency to sustain human life for the entire population in the short run as well as the long run. Availability also implies that food production and supply are dependable in the face of potential disruptions, such as climactic changes, natural disasters, civil disturbances, and other causes. However, availability concerns go beyond the immediate feeding of a population in the short run to include issues of resource preservation, regeneration, and sustainability for future generations. Consequently, embedded in this concept is the question of the long-term ecological balance of natural systems.

The dimension of adequacy addresses the differing nutritional needs of the various segments of the population and can be conceptualized in terms of balanced diets and a variety of foods throughout the year. It includes adequate intake of calories, vitamins and other necessary components, as well as a food supply free of disease and toxic substances. Also an adequate food supply must include concern for the long-term health effects of continuous and largely unmonitored changes in food composition.

Furthermore, the food supply must not be limited by what economists call "effective demand." Simply producing a sufficient and adequate food supply is not enough. Consumers, including low income populations and inner city residents, must be in a position to purchase the necessary food. As Brown (1985) notes, the recent lack of growth in per capita income worldwide has virtually eliminated the income component of food demand growth. As input costs for food production and distribution rise, the purchasing power of the billion and a half poorest people in the world, including a rising number of Americans, declines. These same people already spend much, if not most, of their income on food.

Finally, food security is a social goal existing within a broader set of societal goals for the Nation's food and agricultural system. It is inextricably bound to such goals as equity, equality of oportunity, justice, participation in the making of social decisions, individual fulfillment and happiness, stewardship, mutuality of concern, and community security and sustainability. Consequently, a secure food system should not impose undue social, economic, or health costs on any segment of the population and should be consistent with the pursuit of a society's fundamental goals.

FOOD AVAILABILITY

This multidimensional definition of food security and its relationship to society's goals provides the framework for examining a number of specific issues. Key factors that are related to this country's capacity to produce sufficient quantities of food in the future include the land, water, energy, climate, seeds and germplasm, and science and technology.

Land

A principal element in ensuring the availability of food is the development and maintenance of productive soils. More than 98 percent of our food supply is land dependent. However, the land is under attack. Recent studies indicate that one-third of all U.S. cropland is eroding faster than it can be replaced by natural processes with a significant percentage of soils experiencing serious losses in production due to erosion (Larson *et al.*, 1983). Some analysts have noted that 12 percent of the Nation's cropland and 17 percent of our rangelands face the real prospect of being unproductive within a few decades. Over the next 50 years, the loss of productivity due to cropland erosion will be equivalent to the loss of between 25 and 62 million acres (Sampson in Busch and Lacy, 1984). Furthermore, rapid soil erosion is causing off-site environmental damage, such as sedimentation of streams and lakes, chemical runoff, and loss of fish and wildlife habitat. Moreover, these croplands are experiencing additional degradation through depletion of soil nutrients, increasing salinity of irrigated cropland, increasing soil acidity in high acid rain areas, and soil compaction.

Paralleling this degradation of the land is the removal of prime farmland from crop production by conversion to other uses. Until the early 1950's, growth in the area of the world's cropland generally kept pace with world population increases and provided the bulk of yearly increases in the food supply. This growth slowed markedly during the fifties, averaging less than one percent per year and falling below 0.2 percent per year during the early eighties (Urban and Vollrath, 1984). In the U.S., the loss of existing or potential cropland has occurred at a rate of approximately 5,000 acres every day since 1967, the equivalent of losing 23 average farms per day (Sampson in Busch and Lacy, 1984). Between 1967 and 1975, 2.5 million hectares of prime U.S. cropland were converted to urban uses, constituting 39 percent of all land converted to this use (Lee, 1978). Unfortunately, these losses are often accompanied by expansion of cropland on less productive and more vulnerable lands.

Corrective action is difficult. While future projections are speculative, loss of cropland and degradation of soils is likely to continue. The National Association of Home Builders estimates a need for 23 million new housing units in the 1980's, much of which will be built on prime farmland (Sampson in Busch and Lacy, 1984).

At the same time, many farmers are experiencing financial crises. Consequently, they are resorting to additional short-run cost-cutting measures, such as extra cropping and increased grazing, while ignoring conservation practices which do not pay for themselves in the short run (Batie and Healy, 1983). Long-term acreage retirement and conservation oriented commodity programs may help increase soil conservation, replenish soils, and reduce surplus crop production in the short run (USDA-ERS, 1985). Under the 1985 farm bill, Secretary Block declared 69.5 million acres of erosion prone cropland eligible for planting to soil conserving grasses, legumes, and trees for a minimum of 10 years (Orr, 1986). This is a promising beginning for an effort which may require major rethinking of our country's use and responsibilities for the land.

Water

Since water, more than any other production variable, limits crop production and rangeland maintenance, a key factor in U.S. food security is both the quantity and quality of water. Agriculture is the nation's largest single consumer of water, accounting for 83 percent of total use. In addition, irrigated agriculture, the heaviest user of water, is a major factor in total U.S. food production agriculture, totalling 27 percent of the value of farm crops harvested in 1980 (Sampson in Busch and Lacy, 1984).

Increasing competition for water from industry, energy extraction and recreation, and the rising economic and environmental costs of traditional water use strategies will require alternative approaches to agricultural water use. While overall the U.S. appears to have abundant resources, geographic disparities exist. In most years, the eastern portion of the United States receives more than its share of rainfall, while arid lands of the far Midwest and Southwest receive little precipitation. The Water Resources Council has estimated that by the year 2000 surface water supplies will be severely inadequate in 17 subregions, mainly in the Midwest and Southwest (Sampson in Busch and Lacy, 1984).

In recent years, available groundwater has been utilized in water deficient areas to support irrigated agriculture, but this source is being rapidly depleted. Stimulated by cheap energy and improved pumps, groundwater use provided 39 percent of all irrigation withdrawals in 1975. A single underground reserve, the Ogallala aquifer, supplies water for one-fifth of the irrigated cropland in the U.S. This aquifer, which underlies portions of eight states, was responsible for a growth in irrigated agricultural acreage from 2.1 million acres in 1949 to over 8 million in 1978. However, in some regions, due to extensive overpumping, the water is either too saline, too expensive to pump, or totally depleted. From 1978 to 1982, in six states served by the Ogallala, irrigation declined 7 percent. The problems of the Ogallala aquifer are paralleled by the water reserves in other U.S. locales such as Arizona and Florida. Indeed, in coastal areas, heavy pumping of groundwater has resulted in threats of salt water intrusion into water supplies (Postel in Brown, 1985).

In the far West, the large, irrigated and highly productive agricultural valleys are fed by an expensive and wasteful system of canals. Much of the water evaporates before reaching its destination. Overuse of this federally subsidized water source is creating problems of waterlogging and salinization in the Western valleys. Such salinization is expensive to reverse. Moreover, less valuable crops must often be grown in salted lands. In addition, these irrigation waters have carried large quantities of potential pollutants such as fertilizers and agro-chemicals into water supplies for other purposes.

Finally, in the East, where water supplies have been more plentiful, agriculture may be threatened by increasingly acidic rain. The consequences and extent of acid rain are under current investigation and some preliminary evidence shows lower crop yields (Postel in Brown, 1985).

While many useful technologies provide greater efficiency of water use and conservation, current mismanagement practices threaten the sustainability of this most critical of all resources for food production (Wittwer, 1984).

Energy

Although agricultural production requires a relatively small share of the total energy budget of the U.S. (approximately 2.5 to 3 percent), the total food system consumes a much larger percentage. Food processing requires about 5 to 7 percent of total U.S. energy and the total food system (production, processing, preparation, transportation, marketing) utilizes approximately one-sixth of all U.S. energy (CAST, 1984). Much of the energy used in agriculture and in the food system in general is nonrenewable fossil fuel, which will become increasingly scarce in the future and is subject to partial control by foreign suppliers.

In agriculture, many analysts have argued that energy use is highly inefficient with far more energy utilized for producing crops than the crops themselves contain. This energy inefficiency is even more evident in animal production (Pimental in Busch and Lacy, 1984). Nitrogen fertilizer and tillage usage constitute the major energy inputs in agriculture. Energy use is likely to continue to increase in the future to maintain productivity on land of declining quality and to compensate for land lost to other uses. Recently, an interdisciplinary team of scientists concluded that a shift of cropland from a slightly eroded condition to a severely eroded condition would boost annual fertilizer application requirements per acre by 40 pounds of nitrogen, 3 pounds of phosphate, and 13 pounds of potash merely to maintain the output. Tillage fuel requirements were also estimated to increase by 38 percent (Brown, 1985).

Another source of energy use in agriculture, albeit relatively small, is in the area of herbicides and insecticides. Since pests are a major danger to dependable crop production, pesticides have been a popular contemporary solution. However, the development of pest resistance to these chemicals threatens this solution. In addition, these chemicals compromise the health and safety of farm workers, pesticide applicators, people in nearby communities, and consumers of agricultural products (Coye in Busch and Lacy, 1984). While integrated pest management (IPM) represents a potential alternative, agricultural analysts maintain that because of institutional constraints and funding strategies, IPM will not become a reality in this generation (Wittwer, 1983).

Despite the small share of energy consumed by agricultural production, the availability of fossil energy sources has changed the crops we raise and how we raise them, the preparation of the soil, utilization of water and nutrients, the control of pests, and the harvesting and storage of crops. It has also altered the relative importance of capital, labor, and land, and has played a central role in the continuing trend away from self-sufficiency towards greater use of purchased inputs. Finally, energy use has created new ties between farmers and the processing industries. Thus, energy's effect on the sustainability of agriculture is substantially more complicated and far-reaching than it appears at first.

Climate

Perhaps the most disruptive factor in achieving food security is that of climate and atmospheric conditions. In addition to natural climatic stresses such as drought, heat, and cold, human activities may induce climatic change and alter long-standing ecosystems. For example, deforestation and fossil fuel combustion are posited to increase the levels of atmospheric carbon dioxide, thereby warming the earth and creating a potential greenhouse effect. If the industrial countries were to continue fossil fuel use at the prevailing rate, atmospheric carbon dioxide levels will double preindustrial levels by 2030, increasing average global temperatures five degrees Fahrenheit. While these warming trends may benefit certain areas such as Canada and the Soviet Union by increasing crop yields, the overall effects will be negative. Rising temperatures are projected to influence heat stress on crops, dislocate agriculture, shift rainfall patterns, increase evaporation, melt the Antarctic ice caps, and raise sea levels (National Academy of Sciences, 1983; Brown, 1985).

In addition to rising atmospheric carbon dioxide, air pollutants such as sulfur, nitrogen compounds, and ozone negatively affect food crop production (Wittwer in Busch and Lacy, 1984). It will be increasingly important for U.S. food security to accurately identify patterns of change in climatic conditions and sources of air pollutants, to monitor these changes, and to assess their effects on agricultural productivity.

Seeds and Germplasm

Since plants provide directly or indirectly up to 95 percent of the world's total food supply, safe and secure supplies of genetic food crop materials are essential for food security. While there are 350,000 species of plants worldwide, only about 300 are important current sources of food and just 21 crops essentially stand between human life and starvation. Within these crops a single crop variety accounts for 16 percent of the soybean crop, 29 percent of the rice crop, 20 percent of the barley crop, and 37 percent of the corn crop (Butler in Busch and Lacy, 1984). Finally, much of the seed for the major U.S. cereal grains originated from the same genetic pool. A growing genetic uniformity increases the probability of plant pest or disease epidemics. Victoria blight on oats, leaf and stem rust on wheat, southern corn leaf blight, bacterial speck on tomatoes, alfalfa weevil, and sorghum greenbug outbreaks have all been traced to genetic uniformity (Kannenberg in Yeatman *et al.*, 1984). While it is not possible to determine at this stage exactly how much genetic diversity there is and how much variety concentration is unacceptably high, it appears that our major crops are vulnerable.

Science and Technology

Our current food abundance is in part a product of more than *one hundred years of agricultural research.* Recently, however, it has become difficult to maintain this rate of growth. Productivity of the major food crops has plateaued, with yields of wheat, maize, sorghum, soybeans, and potatoes in the U.S. unchanged since 1970 (Wittwer, 1978). Consequently, advances in technology—particularly biotechnology including recombinant DNA technology, tissue culture, and cloning—are viewed as new frontiers in agricultural research. However, their potential for significantly changing productivity trends is greatly exaggerated. While biotechnology may accelerate the research effort, it cannot replace the well-established practices of plant and animal breeding (Hansen *et al.*, 1986). Two widely discussed potential breakthroughs in agricultural research are the development of nitrogen-fixing cereals and of photosynthetically more-efficient crops. Although possible, evidence suggests that cereal yields will decline if they are modified to fix nitrogen. Realistically, only increased photosynthetic efficiency will significantly raise yields. However, both of these breakthroughs are remote, long-term possibilities.

In addition to the complex technical issues of food sufficiency facing the research community, there are a number of other concerns regarding the scientific enterprise. Inadequate funding, particularly at the Federal level, has eroded the institutional bases of agricultural research at both the Federal and State levels (Busch and Lacy, 1983) and in recent years, the agricultural research system has become isolated from the larger scientific community with its basic science capacity reduced severely and its staff grown increasingly older. The research and development requirements for a secure food system are diverse and complex, and demand a major refocusing of the research priorities.

FOOD ADEQUACY

As noted earlier, food security requires not only that there is enough food produced and hence enough calories but also that the food is adequate both nutritionally and in terms of its safety. The basic task of nutrition science is to "formulate a diet over the lifetime of an individual that will optimize health, well being and longevity," a task that calls for providing the necessary chemical components in the right proportion and avoiding or minimizing toxic substances (Morowitz, 1980).

Nutrition

The major nutritional problems threatening U.S. food security are the two faces of malnutrition. These are hunger and overconsumption. While we often regard hunger as a developing country problem, hunger as measured by the number of people requesting food from emergency feeding services has increased in almost all areas of the U.S. in the last few years. Malnutrition measured in terms of infant mortality rates and depressed growth pattern in children has also increased particularly in inner city populations (Clancy, 1984). This is due in part to cuts in domestic food and welfare programs coupled with high unemployment and underemployment. Consequently and despite a large current farm surplus, hunger continues to be a significant issue for a portion of our population.

In contrast, the fact that overweight is considered a significant health problem in the U.S., while underweight is not, suggests that the U.S. population as a whole has access to many, many more calories than it needs. However, this conceals a number of nutritional problems which are widespread but more difficult to document. In practice, an adequate food supply is one in which a reasonably informed populace can select the necessary mix of foods while avoiding substances that may prove dangerous over the short or long run. For a variety of reasons, this has become increasingly difficult. Although nutrition has often been described as the interface between agriculture and health, this linkage has been tenuous. This is in part because, as Margaret Mead once stated, "food as something which man needs to provide growth and maintenance was separated from food as a cash crop and made a commercial as opposed to basic enterprise" (Mead, 1976:176). The U.S. marketplace has been drastically altered in the last half century with the number of items in the typical supermarket growing from 800 to 12,000. These new products contain refined substances like sugar, fat, and sodium, substances for which several government and private organizations have recommended dietary reductions.

In addition, while our understanding of nutrition has improved markedly over the years, complete knowledge of the enormous complexities of nutrition is both unavailable and probably beyond human faculties. With rapid changes occurring in the diet of our population, the Committee on Diet, Nutrition, and Cancer concluded that the most rational diet based on present knowledge would be one rich in fruits, vegetables, and whole grains, a diet of whole foods rather than food equivalents. In addition, more attention must be given to the long-term effects of continuous and generally unmonitored changes in food composition (National Research Council, 1982).

Food Safety

Potential contaminants of food include those that enter the food production system intentionally but remain there unintentionally (i.e., pesticides, herbicides, fertilizers), those that are accidentally introduced (e.g., polychlorinated biphenyls—PCBs and polybrominated biphenyls—PBBs), those that are added and intended to remain in the food supply (e.g., food flavoring, coloring, and preservatives) and those products or compounds formed by novel processing and food preparation techniques (e.g., irradiation).

In the production of foods, an increasing number of agricultural chemicals are utilized. For example, researchers estimate that approximately 100,000 formulations of about 900 pesticides are produced and utilized annually (Sissons and Telling, 1979). With such a large number of potentially toxic chemicals involved, the probability of them affecting the farm community and entering the food chain is high. The subject of intentional additives is equally complex and too extensive to discuss in detail.

While foods in the U.S. are generally free from immediate, acute food hazards, broader issues regarding food safety are serious and quite controversial. One cannot be fully sure of the safety of additives, trace elements, and unnatural synthetic substances until they have been consumed by people of all ages in specific amounts over a long period of time. As one nutritionist has observed, "If product proliferation for profit continues unabated without reference to the biochemical changes they are thereby creating and if we continue to pollute the environment and thus inevitably the food producing environment . . . there is no way of guaranteeing the necessary let alone optimal" food nutrition or safety (Gussow in Busch and Lacy, 1984:225).

FOOD ACCESSIBILITY

An essential element in food security is accessibility. Food security requires that effective and efficient means be available to deliver the food to consumers and that ways be found to give everyone fair access to the food. Thus, accessibility encompasses not only transportation and marketing but consideration of the economic means to purchase an adequate food supply.

Marketing and Transportation

Approximately 97 percent of the population of the U.S. live some distance from the site of food production. In addition, over the last century and particularly since the end of the Second World War, regionalization has characterized agricultural production in the United States. Tomatoes are grown in California; oranges are grown in Florida; corn is grown in Iowa; and dairy cows are raised in New York and Wisconsin. As a result of these changes, food is often shipped thousands of miles to the consumer. Even supermarkets in producing regions frequently obtain their produce from great distances due to the lack of direct farmer to supermarket marketing arrangements. In addition, only a small number of rail links tie the Eastern to the Western portion of the United States. Disruptions of these railways, for whatever reason, seriously impair our ability to move food from one coast to the other.

In addition, the U.S. highway system is in need of major repair. In particular, the off federal-aid system of rural county roads is deteriorating. An estimated 61 percent of bridges in this system—and particularly those in some agricultural States—are deficient (Baumel and Hayenga in Busch and Lacy, 1984).

Wholesaling and Retailing

The food retailing industry in the United States has grown increasingly concentrated since the end of World War II. Supermarket chains have replaced individual stores and "convenience" stores have virtually eliminated the "mom and pop" grocery store. In addition, food stores of all types are less numerous in inner cities than they were just a few years ago. Most stores currently stock two to three days worth of food. Therefore, in the event of a prolonged disruption of the highly concentrated food supply chain, shortages would quickly develop.

Consumers are not prepared to cope with this problem. Recent studies reveal that consumers have a relatively small supply of food in their homes, most of it quite perishable in nature (Christenson *et al.* in Busch and Lacy, 1984). Particularly at risk are single people, the elderly, and poor inner city residents.

Social Impact and Poverty

Several analysts of our food system have argued that such a system is not secure if it directly or indirectly worsens the distribution of opportunities or incomes within producing communities, skews the distribution of benefits, and limits the access of food for portions of the population (deJanvry, 1981; Moles and Riker in Douglass, 1984). Inherent in this perspective is the notion that a secure food system entails secure, sustainable and just communities both where food is produced as well as where it is consumed.

The debate on the social impact of U.S. agriculture and the food system has been heated and controversial. Many have argued that the modern scientific agriculture and food system has not only resulted in a disenfranchisement and an unjust redistribution of power to make decisions in rural areas, but has also weakened the social and cultural institutions on which a secure, sustainable food system must depend (Berry in Douglass, 1984; Douglass, 1984; Goldschmidt, 1978). Furthermore, these critics contend that the current system subjugates all levels of agricultural activity to the discipline of markets, the integration of farming into the agribusiness chain, and the internationalization of agricultural markets, thereby skewing the distribution of the benefits of the system.

For the increasing numbers of people in poverty, our society lacks effective means for providing food security. The marketplace is inappropriate for distribution of food for these people. Furthermore, programs such as school lunches and food stamps are constantly at the mercy of each new Congress or economic theory. Nutritionally, the food stamp program is inadequate. USDA acknowledges that only 11 percent of those spending at the levels of the plan can purchase a diet that meets the recommended nutrient levels (Clancy, 1984). Food security for the poor will not be achieved by punitively administered and reluctantly funded government food programs. Nor will it be achieved by often humiliating access to food pantries filled with unsuccessful or outdated food products for which industry has received large tax benefits. Food security for the poor will require a careful reexamination of our values and commitment to giving everyone in the population fair access to the food supply.

CONCLUSION

This brief overview of domestic food security cannot do justice to the extraordinary complexity of the issues. While we may treat soil erosion, water, energy, climate, marketing, nutrition, poverty, and other issues as distinct, they are in fact highly interrelated. The grower who produces oranges under contract for a food processing firm employs the necessary pesticides to ensure that those oranges reach the processor blemish-free. As a result, health hazards to farm laborers and environmental pollution may be increased with no net gain in quality to the consumer. Similarly, tax structures that encourage farm operators to finance large-scale irrigation systems or to purchase heavy equipment may contribute significantly to soil erosion and degradation, to depletion of nonrenewable aquifers, and to economic vulnerability. Currently, little is known about these interrelationships. The fragmented character of the scientific community itself makes these interrelationships extraordinarily difficult to unearth.

In closing, we reiterate that we shall not run out of food next year. However, a serious examination of the problem of food security is necessary now if we are to avoid any of a number of possible catastrophic scenarios in the future. We need to rethink just what kind of food system will best serve the American public while being consistent with society's fundamental goals and values. The U.S. food system is at a crossroads of significant proportions, and all those involved must reexamine ways of collaborating and marshalling resources for the future.

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BIOTECHNOLOGY AND THE FUTURE OF RURAL AMERICA

By Frederick H. Buttel*

The 1980's have been an era of unprecedented attention to new and prospective technological developments. With the stagnation and decline of the traditional industries that undergirded U.S. post-World War II economic expansion (autos, steel, chemicals, etc.), both industry and governments have begun to look toward a new generation of "high-technologies" as the engines for a future phase of growth and prosperity. Biotechnology and the new computer, semiconductor, telecommunications, and related information technologies have generated the greatest interest. Indeed, each of these technologies promises to have far-reaching impacts on the economies of advanced industrial countries because the technology will not only lead to new products, but more importantly will also provide the means for substantially cheapening the production of existing goods.

While each of these new high-technologies has immense promise for increasing productivity and living standards, the vast bulk of policy-oriented research on these new technologies has been oriented toward assessing the prospects for U.S. leadership in technological innovation. Little has been focused on the distribution of costs and benefits among social groups. This has been especially so with biotechnology, since most decision-makers have approached this new technological form with an attitude of boosterism in order to promote research and development (R&D) investments. This has, somewhat ironically, been the case as much with the Federal Government's major technology assessment agency, the Office of Technology Assessment (OTA), as with agencies whose role is to promote technological innovation and change.

The importance of examining the distributional impacts of the emerging high-technologies such as biotechnology is not confined to mere social justice considerations. Rather, insofar as these technologies might substantially advantage some groups over others and lead to major social dislocations, these second-generation problems of technological innovation may carry high costs of relocating households, retraining individuals for new employment, providing social welfare benefits to displaced workers, or even ameliorating the decline of regional and community economies. Research that helps us anticipate the socioeconomic impacts of new technologies will likely be useful in alerting existing institutions (e.g., Federal agencies with rural development responsibility, Land Grant colleges and cooperative extension organizations) to the need for new programs to mitigate possible negative impacts.

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The prospective impacts of emerging high-technologies on nonmetropolitan (to be used hereafter interchangeably with "rural") America are logically among the highest priorities for *ex ante* assessments. The U.S. has long been characterized by rural-urban disparities in incomes, living standards, and service availability. These disparities narrowed substantially during the late 1960's and the 1970's, but recent evidence suggests that significant disparities remain and that the gains registered over the past two decades have been fragile (see, for example, Bluestone and Daberkow, 1985).

Thus far there has been little attention to how new high-technologies, especially biotechnology, will affect rural America or specific segments of the nonmetropolitan population. The modest efforts that have been undertaken to date have been largely confined to estimating the possible impacts of computer, telecommunications, and other "information" technologies (Buttel, 1985; Dillman, 1985; Tweeten, 1984). Assessment of future rural-urban and related regional impacts of biotechnologies has been largely confined to efforts in various European countries (see, for example, the summary in Roobeek, 1984).

This chapter accordingly lacks the research base that one would like to confidently call to the attention of policymakers the challenges and possible dislocations that biotechnology might present to rural America. Nonetheless, current trends in investment and R&D activity by private firms, the results of a few U.S. studies of the likely impacts of biotechnology on farm structure, and research that has been conducted in Europe provide some of the major building blocks for providing a tentative, but necessarily qualitative, assessment. Prior to doing so, I will provide a brief overview of biotechnology and its major industrial applications. This will be followed by a discussion of existing U.S. research on the prospective impacts of biotechnology on agriculture, the sector of the nonmetropolitan economy that will almost certainly be most affected by this technology, and on other sectors of the nonmetropolitan economy and social structure. Concluding comments will be devoted to public policy suggestions.

The Nature of Biotechnology and Its Commercial Applications

OTA (1984:3) has defined the new biotechnologies as the use of recombinant DNA, cell fusion, and other novel techniques for manipulating genetic information so as to employ "living organisms (or parts of organisms) to make or modify products, to improve plants or animals, or to develop micro-organisms for specific uses." These techniques are novel in that they have been discovered (or, as in the case of plant cell and tissue culture, have exhibited qualitative improvements) over the past 15 years in the course of basic research in biology, especially molecular biology. Initial commercial investments in these new technologies began in the late 1970's with the formation of numerous "venture capital" or "start-up" companies, followed in the early 1980's by massive investments by large chemical, pharmaceutical, and oil companies (OTA, 1984).

The ability of researchers and product developers using these techniques to select and manipulate genetic information with unprecedented efficiency, speed, and specificity is facilitating a plethora of actual or potential commercial applications. In approximate order of commercial introduction, the major applications of biotechnology will be as follows. The first applications, some already commercially available and many more well into the product-testing pipeline, are a variety of *pharmaceuticals* (e.g., proteins such as interferons and insulin, antibiotics, monoclonal antibody diagnostics, and vaccines) for human and animal uses. *Animal agriculture* will be the initial segment of agriculture affected by biotechnology. Many animal pharmaceuticals (vaccines, disease diagnostics, growth hormones) and reproductive technologies (embryo transfer, superovulation, sexing, twinning) are already or soon will be available. Human pharmaceutical products and animal agriculture technologies are the first biotechnologies to be commercialized, in large part because of the fact that the huge basic research effort associated with the National Institutes of Health cancer and related disease programs has led to a knowledge base in mammalian genetics and biology greatly in excess of that for plants. Also, the human pharmaceutical area has large potential markets. And while animal agriculture markets are more limited, regulatory requirements for animal products are less than for human ones—making animal agriculture one of the most attractive areas for biotechnology product development.

The next area of application of biotechnology will be in producing *specialty chemicals and food additives* (e.g., new bioprocesses for producing amino acids, vitamins, steroids, enzymes, and pesticides). Note that some applications of biotechnology (e.g., industrial tissue culture production of pyrethrin, a naturally-occurring pesticide that is a secondary metabolite of pyrethrum plants) in this area will displace an agricultural product by moving the production process entirely into the factory (Buttel, 1983), although these negative impacts on farmers and rural areas will be largely confined to the Third World (Kenney et al., 1984; Buttel et al., 1985).

Applications in *plant agriculture* will be highly variable in their timing of commercial introduction. Certain biotechnology techniques such as plant cell and tissue culture are already widely used to complement traditional plant breeding research. The first "bioengineered" plant varieties will be those possessing genes for single-gene traits such as herbicide, salt, and stress tolerance. Genetically-modified microorganisms that interact with plants (e.g., the much publicized "ice-minus" bacterium to prevent crop losses from frost) are also close at hand. Polygenic traits such as photosynthetic efficiency, nitrogen fixation, and growth rate will be far more difficult to manipulate with the new biotechnologies.

Environmental applications will include using genetically-modified microorganisms to degrade toxic wastes and other pollutants and to assist in more effective extraction of minerals such as petroleum and metals. Even further into the future will be the application of biotechnology to producing *commodity chemicals* from biomass feedstocks (e.g., cornstarch and other agricultural and forest materials). Along with commodity chemicals, applications in *bioelectronics* (biosensors or biochips) will be 20 or so years away. Biosensors promise major improvements in the efficiency of industrial bioprocesses, while biochips—probably the most distant biotechnology application—would involve using protein molecules as a framework for improving the design and performance of semiconductors.

POSSIBLE IMPACTS OF BIOTECHNOLOGY ON FARM STRUCTURE

Agriculture, while it no longer dominates the overall nonmetropolitan economy, still remains its single most important industry. In 1980 there were still 702 (out of 2,443 total) nonmetro counties in which 20 percent or more of labor-proprietor income came from agriculture, and in more than 200 of these counties over half of income is from farming (Petrulis, 1985). Thus, a crucial component of the future impact of biotechnology on rural America will be its effects on agriculture and on the structure of the farm sector.

Fortunately for our purposes, there have been some significant research projects on this issue, in particular those by R. Kalter and associates at Cornell University (Kalter, 1985; Kalter et al., 1984), by OTA (1985), and by a group of researchers at Auburn University (U. Hatch, J. Molnar, H. Kinnucan) whose research is yet in progress (Molnar et al., 1985; Molnar and Kinnican, 1985). The principal focus of each of these research efforts has been on bovine growth hormone (bGH), a naturally-occurring hormone in dairy cattle which, however, can be produced industrially in large quantities by genetically-modified bacteria. This has been a logical area for preliminary impact assessment, since bGH is closer to commercial introduction than most other agricultural biotechnologies and bGH promises to increase milk production by roughly 20 to 25 percent with only modest increases in feed requirements (Kalter, 1985).

Although there are certain differences in the results of the two groups who have published their results thus far, both Kalter and associates and OTA have reported that bGH will lead to a 10 to 15 percent reduction in milk prices and a decline in the number of dairy cows and dairy farms by 25 to 30 percent as early as three years after commercial introduction (Kalter, 1985:128), which is expected in 1988 (Kalter, 1985:125). These dramatic impacts are anticipated, in part, because of sample survey data indicating that 80 to 90 percent of dairy producers will adopt bGH within the first three years after it is commercially available. The two studies are in general agreement that there will be a major "shake-out" in the dairy sector in which early bGH adopters, superior managers, larger operators, and farmers with low-debt asset ratios will be the most likely to survive. The two research groups have disagreed on the regional implications of bGH penetrating the dairy sector. OTA expects that industrial dairies in the Southwest will gain over those elsewhere, especially over those in the Upper Great Lakes states and the Northeast, because of the more favorable scale economies and profitability levels of industrial dairies; Kalter and associates expect no such impact, since they feel that the increased feed requirements associated with bGH will be an advantage to feed-producing regions. Nonetheless, Kalter's (1985) summary accurately portrays the clear empirical consensus that exists at present:

> In sum, the introduction of biotechnology will probably accelerate the trend toward fewer and larger farms, and the structure of agriculture will tend more and more

> toward specialization. Only larger operations can develop a division of labor enabling the type of management practices being suggested here [computers, software, and other sophisticated sensing and control devices]. Only specialization permits the focus necessary for superior management (p. 131).

These data on bGH are certainly suggestive of the long-term impacts of biotechnology on farm structure, but one might suggest caveats regarding the bGH adoption pattern in particular, and the role of biotechnology in agriculture in general. First, it may well be that existing research has overestimated both the speed and universality of bGH adoption. After all, a superior technology in animal agriculture such as artificial insemination has only about 75 percent adoption in dairying and only 50 percent in beef cattle after more than 25 years of commercial availability. Thus, the technological impacts that have been forecasted in dairying may emerge more slowly than expected, though the structural pattern expected by these researchers seems reasonable. Second, farmers who leave dairying following the introduction of bGH will not necessarily leave farming altogether; many will instead shift to other farming enterprises (e.g., beef production). Third, it seems unlikely that other areas of biotechnology application to agriculture, especially in plant agriculture, will exhibit the extraordinary and immediate output-expansion impacts anticipated for bGH.

Nonetheless, the new biotechnologies will, in all likelihood, deepen the now longstanding patterns of structural change in U.S. agriculture—trends toward fewer and larger farms, greater capital intensity and specialization, and "dualism." In particular, biotechnologies will tend to be highly management-intensive, and farmers (generally larger ones) with superior management ability and access to information and data processing will be able to use the new biotechnologies most effectively. Second, biotechnologies will, rapidly or not-so-rapidly, tend to increase output and, like most earlier biological technologies (Molnar and Kinnucan, 1985), tend to result in downward pressure on commodity prices. The consequence will be increased concentration of agricultural production in the hands of very large family proprietorships (rather than among industrial farms, since low commodity prices will continue to discourage major nonfarm corporate investments), along with a "disappearing middle" of medium-sized, full-time family farms and relative stability in the numbers of small, subcommercial part-time farms.

Many of the implications of these prospective changes in farm structure are fairly obvious. Decline in the number of farms, especially in a rapid shake-out, will lead to farm family stress (and, one might add, to the need for expanded extension programs to deal with these problems). Decline in the number of commercial farms will also increase the need for new job creation in metropolitan regions (to facilitate either part-time farming or movement from agriculture into nonfarm work). In certain regions where agriculture dominates the nonmetropolitan economy (primarily the western corn belt, the Great Plains, and parts of the Northwest), declines in the number of farms and the farm population will place particular stress on rural community economies and institutions. These stresses will be especially pronounced to the degree that technological change proceeds very rapidly, as is anticipated for bGH in the dairy sector.

Two other implications are perhaps less obvious. First, if technological change occurs with and exacerbates conditions ressembling the current debt crisis in agriculture, the accompanying dislocations experienced by farmers and rural communities will be far more severe than those that characterized the historic transition of agriculture during the three decades following World War II. Second, the deepening of the output-enhancement trajectory of technological change by biotechnologies in the context of an increasingly interdependent world food economy cannot help but eventually cause a crisis of farm commodity policy on fiscal grounds. This may well create the need for a restructuring of farm policy as far-reaching as that of the 1930s. The shape that these new policies will take and their impacts on rural America are difficult to anticipate. But there seems little question that, in the absence of a reinvigoration of agricultural export markets, expansion of U.S. productive capacity due to new biotechnologies and other technological forms (see OTA, 1985) will put increasing pressure on commodity policymakers to restructure U.S. farm programs.

POSSIBLE IMPLICATIONS OF BIOTECHNOLOGY FOR RURAL-REGIONAL DEVELOPMENT AND EMPLOYMENT

In contrast to the farm production sector on which there are substantial data suggestive of likely future impacts, the data base for the impacts of biotechnology on rural-regional development and employment is essentially nonexistent. This is unfortunate given that nonmetro counties as a whole are somewhat more dependent on industrial employment than are metro counties (Bluestone and Daberkow, 1985). Because of the lack of a data base on prospective rural-regional impacts of biotechnology, what follows is a tentative assessment based on the literature on other high-technologies (especially Tweeten, 1984), on knowledge about the regional movements of industrial and employment locations (especially Markhusen, 1985), and on research in Western European countries (especially Roobeek, 1984).

On one aspect of the impacts of biotechnology on the nonmetropolitan economy and social structure there is little doubt: The location of firms at the stage of R&D and innovation is almost entirely in *urban areas of states on the west and east coasts.* For example, of the 224 biotechnology firms listed in OTA's most recent (1984) report on biotechnology, over one-quarter are located in California alone (59), followed by an additional 10 percent each in New Jersey and New York (24 and 22, respectively) and significant numbers in Massachusetts (17), Maryland (12), and Pennsylvania and Illinois (11 each). By contrast, the total number of biotechnology firms in the entire Southern region, a region which has recently experienced rapid industrialization but which has long had the highest incidence of rural poverty, is eight (including three firms in Texas). Moreover, it is widely recognized that there has been essentially no growth in the number of biotechnology companies over the past year. And the expectation is for a shake-out to occur and for there to be decline in the number of biotechnology companies over the next two or three years. Thus, it is quite clear that nonmetropolitan America will receive no direct employment or economic development benefits from the R&D and innovation phase of biotechnology.

The historical experience with other high-technology producer goods such as computers and semiconductors has been that the next—the post-R&D or agglomeration—stage of the product life cycle is characterized by rapid growth of existing firms (and/or rapid proliferation of new firms) at the *same geographical locations* where the innovation activity began (Markhusen, 1985:45). Several factors encourage spatial agglomeration at this stage of manufacturing activity. Corporate strategy will tend to emphasize further R&D, product design, and marketing—thus requiring the types of skills that are most predominant in areas in which the initial R&D took place. Many firms will depend upon subcontracting with other firms and suppliers, which is easiest if all firms concerned are in one location. Finally, locating in an established area of R&D confers advantages in terms of access to new information—a crucial consideration in a high-technology industry in which the product cycle is very short. In sum, rural areas, because they were totally bypassed at the R&D/innovation stage in biotechnology, are unlikely to receive any employment benefits from biotechnology during the initial-commercialization/agglomeration stage.

The third stage in the product life cycle—the dispersion stage—is characterized by market and employment expansion, pursuit of economies of scale in production, and dispersion of production units closer to markets. It is at this stage that a new technology industry such as biotechnology will have its most crucial impacts on rural America (exclusive of impacts on agriculture). This stage will probably be reached within 10 to 15 years in many pharmaceuticals, somewhat later in specialty chemicals, and about 20 years hence in commodity chemicals.

The impacts of the biotechnology industry on rural America at the dispersion stage will probably be determined by several factors. First, given that biotechnology product manufacturing will almost certainly occur in combination with microelectronics and other information technologies (Roobeek, 1984), it is theoretically possible that plant location can be in virtually any region of an advanced industrial country where there is a modest supply of technical and managerial workers. Hence, biotechnology industry employment could shift toward nonmetro areas sooner than has been the case with the past generation of new producer goods industries. Second, agricultural and forest materials will become important feedstocks (substituting for petroleum and other fossil fuel feedstocks) when new biotechnology production processes become generalized in commodity chemicals. This will probably increase demand for such materials to a significant degree, conferring a potentially significant benefit upon rural America. It is not clear, however, that the emergence of new production processes in commodity chemicals will be a major factor in causing these industries to locate close to the source of feedstock supply (i.e., in rural areas; Roobeek, 1984). Finally, however, European research has established that the predominant employment impact of biotechnology will be *massive net labor displacement* as genetically-modified microorganisms, microelectronic devices, robots, and technical labor substitute for skilled and semiskilled production workers and traditional plant and equipment in the pharmaceutical and chemical industries (Roobeek, 1984). Whether rural America benefits relative to urban America at the dispersion stage will thus depend not only on the location of new plants, but perhaps more importantly on the location of existing plants and labor forces in pharmaceuticals and chemicals that are likely to be displaced.

On balance, rural America has two possible things in its favor—the theoretical possibility for biotechnology production facilities to locate outside of major urban centers and the advantages that might accrue to rural America because of the future importance of starch and lingnocellulose feedstocks in chemical and pharmaceutical production—but also one major liability. The ominous factor in how rural America will be affected by the industrial (or nonagricultural) side of biotechnology is that the major losers will be those regions (and their residents) where commodity chemical—and, to a lesser extent, pharmaceutical and specialty chemical—production facilities are located when the dispersion stage of the life cycle is reached. It is apparent that traditional chemical and pharmaceutical production facilities have for well over a decade been moving into nonmetro regions in the U.S. and to Third World countries (Markhusen, 1985: Chapter 10). Nonmetropolitan America will clearly be hurt less to the degree that the two favorable factors operate to retain chemical and pharmaceutical plants there. But *even if* this is the case one would anticipate significant employment decreases in these industries, which will, nonetheless, be far worse if urban regions are the recipients of the new plants and employment opportunities.

CONCLUSION

The picture that emerges from this tentative—and, in some places, an admittedly highly conjectural—assessment of how biotechnology will affect rural America has some negative features. This is not to deny the significant benefits that will accrue to the Nation as a whole and to some segments of rural America as a result of biotechnology. Nor is it in any way intended to make a case for aborting the biotechnology revolution (which will be impractical in any case). Rather, these analyses and comments are made to alert policymakers at an early stage to the possibility that there may be some serious dislocations as the diffusion of biotechnology works itself out in its spatial dimension.

I would like to conclude by drawing out two plausible public policy implications of the foregoing analysis. First, the best estimate that we can now make about the socioeconomic and employment benefits and costs of biotechnology in rural America is that the latter may well outweigh the former. To the degree that this is the case, it suggests that the dismantling of the Federal Government's role in funding rural-development-related programs that has occurred over the past several years must be rethought. It is now becoming clearer, net of considerations related to biotechnology, that the factors that buoyed the nonmetro economy in the 1970's (the "population turnaround" and rapid employment growth due to industrial deconcentration and other forces) are now at an end (Bluestone and Daberkow, 1985) and can no longer serve as a rationale for reducing the Federal rural development effort. And the technologically-induced displacement of nonmetropolitan workers—farm and nonfarm—that seems probable to occur over the next two decades provides further justification for a reinvigorated federal approach to rural development to help stimulate employment opportunities and ensure essential services for part-time farmers, displaced farmers and nonfarm workers, and rural communities as a whole.

The emerging era of rapid technological change in rural areas also suggests new and expanded responsibilities for the Land Grant system. Elsewhere (Buttel, 1986) I have discussed some of the implications for agricultural research policy. Extension will also have new and expanded roles in its most longstanding traditional area—technology transfer to farmers—because of biotechnology. Chief among these challenges will be to assist farmers—especially those who are likely to be at a competitive disadvantage in adopting the new biotechnologies—to expand their management abilities and to have a neutral, unbiased source of information on new biotechnology products. Cooperative extension can also have a major role to play in helping farm families adjust to stress and in assisting farmers in making shifts in crop or livestock enterprises, in discontinuing farming, or in moving to part-time farming.

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V. SOCIETY AND ECONOMY

Family

CHANGING FAMILY FARMS AND RURAL COMMUNITY RELATIONSHIPS *

By Sonya Salamon **

Up to one-third of our family farms may be lost over the next two to five years, particularly in the western cornbelt and Great Plains States. Along with jobs, we face the loss of irretrievable aspects of American rural life. In actual numbers, the farm jobs lost in no way compare to the numbers of steel workers out of work in the rustbelt. However, because of its nature a lost farm job differs significantly from losses in other sectors in its impact on the family, the community, and the local economy. The far reaching consequences of the farm crisis result from the integral relationship between families and land in rural societies, a relationship that, until now, has characterized agriculture in these troubled areas of the Nation.

The Family Is the Production Unit

A farm family, almost unique among American families, combines kinship functions with those of production. Economic decisions directly affect family members—the farm is the job for the entire family, often spanning several generations. Despite dramatic changes in American agriculture, farming has persisted as a family-dominated activity; it has remained competitive and efficient because families form a flexible labor pool with a willingness for self exploitation (Buttel, 1982). In contrast to other professions, farmers are almost always the sons of farmers; the profession is an inherited one, dependent upon farming families to maintain it (Beale, 1979). The major succession mechanism has been some form of father-son joint operation in which the son begins by assisting the father with labor, gradually assumes management control, and takes full responsibility upon the father's retirement (Coughenour and Kowalski, 1977; Salamon, Gengenbacher, and Penas, 1986). The son acquires the complex knowledge required to farm mainly by observation of, modelling on, and experience with his father and, increasingly, there is some advanced education (Beale, 1983). Com-

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mented an Illinois farmer working with his college educated son, "There is a lot of business in farming. It's usually a 10 to 15 year development to be able to handle it. I'm not sure you can learn it—but if you do, you learn it from the inside. Books can't teach you—and even dad can't . . . so I don't know if he [can] take over."

The succession process is accomplished through intergenerational interdependence, undertaken by the participants at personal cost to meet family continuity goals. It requires the cooperation of the entire family to assure family farm continuity over the generations. Women provide a crucial contribution by bringing land to the business, by foregoing domestic comforts, investing labor as a fully integrated member of a family team, and socializing children to maintain family farming traditions (Salamon and Keim, 1979). Important to succession is parental sponsorship when children buy or rent land (Salamon and O'Reilly, 1979; Salamon, Gengenbacher, and Penas, 1986). Many of those in trouble today were motivated to establish a son in farming by borrowing against the family farm assets at an appropriate family phase, but an inauspicious economic period (Cambell, Heffernan, and Gilles, 1984). A recent northeast Iowa study found those most aggressive toward establishing sons in the '70's were families more recently arrived in farming. Comparatively, those Iowa farm families in long established ethnic communities were more experienced at incorporating family members into the business (Friedberger, 1985). Similar circumstances were evident in a central Illinois county dominated by German ethnics who did not change management or succession practices during the expansionist climate of the '70's, and are therefore encountering less financial strain (Davis-Brown and Salamon: nd).

Intergenerational cooperation is necessitated by the knowledge, experience, capital, and land required to farm competitively (Boehlje and Durst, 1982). When a farm fails, the investment lost belonged to the entire family, and its loss generally means terminating forever the farming tradition for that family. Farming, because of these constraints, does not permit exit and re-entry when economic conditions improve. "Once a generation chooses not to farm, the generations that follow will not farm. Once you get out of farming you can't go back" reflected a farmer with an uncertain future.

The Meaning of Land

The areas most under farm-crisis stress are those where the ratio of self-employed family farmers to hired workers is more than two to one; i.e., a high proportion of those who own or rent the land farm it (Beale, 1978). Few farm families today ever expect to own all the land they farm, yet most hope to own some land, at least that which includes their farmstead. Although operator ownership of land has recently declined (Rodefeld, 1982) three-fourths the labor in the cornbelt and plains over the past 50 years has been provided by families that own and operate the farm (Wilkening, 1981). Thus farm operators in the areas where the crisis is most serious are likely to have a direct, vested interest in the land they farm.

Land means more to farmers than the acreage itself. It is symbolic of those things that figure most importantly in farmers' lives:

security—the key to family welfare; a measure of social status; frequently a sacred trust—the source of family pride and therefore identity (Salamon and Keim, 1979; Salamon, 1985a). A hunger for land motivated the western and northern European peasant immigration that settled the Midwest and Plains. In the words of a previously landless German who homesteaded in central Illinois over a century ago, " . . . when I am plowing I can shut my eyes and smell the dear land under my feet and say it is mine, mine, all mine. No one can take it away. 'I am king' as you said [I would be]" (Corner, 1928). Connecting with an ancestors' commitment that made ownership possible, the land serves as a concrete symbol of the family's past, tying the family to a particular location and providing permanence to the wider society that is otherwise highly mobile. While the Jeffersonian ideal of democracy resting upon the foundation of farmer-owners is no longer relevant, the Nation still cherishes idealized images of virtuous operators farming their owned land within stable and supportive communities (Goldman and Dickens, 1983).

The attachment farmers feel for a particular piece of ground—homesteaded by an ancestor, laboriously purchased by ancestors or themselves, in which relatives lay buried, where "our family has always farmed"—has created many of the financial problems encompassed by "the crisis". Families were unwilling to sell an acre of sacred ground, pushing themselves to extraordinary lengths to maintain a way of life on family-owned land. The words of a young farmwife in central Illinois expressed this attachment: "We were both born and raised on the farm. It's a love for the land, and farming which keeps us at it; it's sure not the money. We want it here for our kids too. So, if we both have to work off the farm, plus do the farming after that, just to make it, then it's worth all the hard work; so we can stay here".

Families, Land, and the Rural Community

The Jeffersonian view that family ownership of farms is inherently better for society may seem outmoded but, for rural communitites, has been supported by a large body of research that measures community quality via such indices as schools, services, and roads. The quality of life appears to diminish in communities where ownership is absentee, or corporate—particularly for hired workers (Goldschmidt, 1978; Nuckton, Refugio, and Gwynn, 1983; Heffernan, 1982). Land ownership thus influences the local social structure in critical ways. While farmers cannot, because of demographic changes, dominate rural communities economically as they did at the turn of the century (Beale, 1983), they are important to the functioning of these communities.

Attachment to land imparts a concern beyond the family farm borders to the wider community. The interdependence of the farm family and community is apparent, not only in the land tenure and infrastructure relationship that measured community quality, but in how commitments to familial continuity are translated into social investments in the community. Farmers are not uniformly dedicated to community preservation in the cornbelt as is readily apparent in the variable investments made in villages within the same area—some die and others flourish. This variation can be related to family attachment to land, derived from ethnic values; where continuity rather than annual profit maximization is the local overarching goal, communities tend to be more vital (Salamon, 1985b; Salamon, in press). German-origin farm families, who dominate agriculture in many areas of the cornbelt and plains (Salamon, 1985a), devote themselves to their community out of the belief that if farm continuity and farming as a way of life are to be sustained, an investment to improve or maintain community quality is demanded. Other areas, dominated by farmers with a more entrepreneurial approach toward farming, typically populations derived from old American stock, are not so committed to social investments beyond the individual family farm. Their communities are less vital and social support networks as a consequence are more fragile and less cooperative (Salamon, in press). Under the current crisis conditions, family attachment to land will become critical, more so than in the past, to the evolution of relationships between farm families and the communities in which they are embedded.

AGRICULTURAL TRANSFORMATIONS AND THE FABRIC OF RURAL SOCIETY

The farms in trouble and most likely to fail in the next few years are middle-range farms—those in the "disappearing middle" (Buttel, 1983; Rodefeld, 1982). Even after families are squeezed out, their land will still be farmed, but how will this transformation change rural life? As the middle dwindles fewer, larger farms are predicted, run as corporations with further separation between ownership and operation. This tenure shift and the possible population shift from operators to hired workers, and the gradual population decline expected will all contribute to radical changes in rural society.

Middle-range farmers are typically active and involved community citizens whose influence is felt out of proportion to their numbers, even when they form a minority. In one central Illinois village that has become bedroom community for a nearby metropolitan area, for instance, a farmer pointed out that "Most rural people attend church, but probably less than half the townsfolk." Similarly in a service club in the community farmers are the involved members. Accounting for the differential participation a farmer suggested that, "Farmers have more flexible hours to devote to projects." This community rallied its populace to contribute money and labor when the downtown burned down some years ago and the shopkeepers had insufficient funds to rebuild. "Without businesses our town will die," a retired farmer argued.

The size and constitution of rural communities, of course, determines the character of business and social bonds. Face-to-face social relations, such as gossip, served in the past to monitor landlord and tenant relationships in midwestern rural communities so that exploitation was minimized and socially accepted justice prevailed. When landlord and tenant are part of the same social community they are answerable to that community for their actions, and this affects how behavior is conducted. For instance, it is customary that Illinois crop share agreements vary from rent shares of one-half on better soils to one-third on less productive soils in the southern areas of the State. These customary share leases have evolved through trial and error to maintain "a necessary state of economic equity between tenants and landowners" (Reiss, 1983:125). Farm leasing arrangements are responsive to the rental market, but moreover a result of long term evolution of business relationships within a social context. Crop share agreements through most of the cornbelt are recognized as being inherently fair; the risks are shared equally as are the inputs (Reiss, 1983). Cash rent leases, in which the tenant assumes all the risk, eliminate much interdependence between landlord and tenant, and are adopted by a new breed of entrepreneurial operator who prefers the independence provided by this lease.

Attachment of local farmers to the land, through ownership or with eventual ownership as a goal, shaped the character of business, and by extension, community. We will see in the cases below how the disappearance of many family farms, committed to community vitality, would transform aspects of rural American social structure we have come to assume permanent. Changing the basis of farming and leasing land in rural communities will have an impact on social class alignments and community continuity because dominance of family farms has been the foundation and integrating force of community social relations.

New Farm Forms

Three examples, each with different changes in farmer/land relationships illustrate some directions of this transformation. The first has occurred over the past decade in central Illinois. An urban professional, with an affinity for land, invested profits from sales of urban real estate in four different counties, containing three communities where land transfer studies were carried out (Salamon, 1984). He first forced tenants, many longtime operators of the land, to take a smaller than customary proportion in his crop-share agreements. Later, these tenants were summarily dropped, some of whom invested in equipment in order to farm this land. Outsiders were brought in. When none of these adjustments brought the profits he felt appropriate, the owner purchased his own equipment and hired salaried help on a part-time basis. He farms his over 2,000 acres of prime agricultural land from a farmstead in his home county. He has no social links in any of the communities and is widely criticized by local suppliers for his aggressive, and even unethical, business practices.

The second case, unlike the professional, is not an outsider but a local entrepreneurial operator whose business boomed. He farms 8,500 acres with his 2 sons and 12 employees in Ohio (Wall, 1984). One-third of his operation is owned and the remainder rented from relatives, pension funds, and non-resident investors. Through a regional cooperative with other large operators, he obtains better prices on equipment, chemicals, and grain sales. He deals directly with the large grain merchants and banks in Chicago and Columbus. In his community, farm equipment dealerships and local grain elevators have closed. This farmer and his adult sons, who work in the business, report little social integration in their community and note particular resentment of their local land sales to outside investors.

Finally, there is an entrepreneurial businessman with few local relationships in communities where his land is located. He characterizes himself as "a large, powerful leasing operator with $5 million worth of equipment operating on one of our major riverbottoms, with land leased from 50 less affluent small landholders . . . (Oppenheimer, 1983:127-8). His office is hundreds of miles from the land he leases, and he farms entirely with non-family hired help. It is a foregone conclusion that neither he nor his hired operators have loyalty or financial commitment to the communities where the leased land is located. Operating with cash rent leases, as opposed to crop share, only the bottom line is of importance in his business relationships, community roads and schools are likely to be of a lesser priority. This operator sees the farm lease as an aspect of free enterprise where the landlord should maximize his returns on the acreage, utilize professional management, and contract for or drop tenants with profits in mind. In fact, it is apparent that absentee landlords, particularly farm widows or nonfarming descendants of former farm families look to larger operators as more capable of absorbing their acreages than a new, younger, local operator just becoming established (Salamon, Gengenbacher, and Penas, 1986).

Not one among these three new breed of farmers worries that he is not liked or integrated in the local community. The check and balance system that governed business relationships is not operative because family attachment to land has been transformed by economic events. These large operators are not subject to structural social constraints; they have little or no community-level social obligations or personal responsibilities. The latter two must only please their landlords who, in turn, are not likely to reside in the community. Such operators are typically unresponsive to such local issues as school quality, village sewage, or road problems unless it directly bears on the operation of their enterprise. The profits made on community land are largely siphoned off and do not contribute to the local economy. To run operations of this large size, each large-scale farmer employs a considerable number of hired men, who obviously do not have the security produced from personally controlled land, long term commitment to the community, or the resources to invest locally. This will constitute an influx of a hired class to communities that last experienced this before the adoption of the tractor and modern combine.

These new operators stand outside a community social structure; they do not need it, and therefore it cannot control them. All three operators are financially successful; their success predicts the further emergence of their kind and the foretelling the erosion of the rural social structure as we now know it. Rural communities, where agriculture is the basis of the economy, are not sustainable without the middle-range farmers. Their numbers are important to local businessmen and schools, their commitment to rural schools and voluntary organizations vital to their functioning. Those who remain in the transformed communities will in all likelihood experience a drastic drop in their standard of living, a possible diminishing of social class, and a shift in the relationships that form local social networks.

Conclusion

Those features that farm families value in their way of life and interpersonal relationships include stability, trust, personalized business dealings, independence, and integration in a strong social network which provides emotional and other forms of support. Transformations in agriculture—the disappearing middle-range of farms along with the families living on them—make problematic the very foundations of this life. Financial stress undermines in insidious ways, by setting neighbor against neighbor when the misfortune of one is opportunity for another, by setting family members against each other through blame or guilt, by isolating farm households as social networks break under the heavy load.

The integration and support associated with rural relationships is what is being lost. Further, as noted previously, business relations among the remaining farmers or hired workers may well develope in less personalized, perhaps less responsive, and less locally embedded ways. These changes have begun, with roots in the economic transformation of the agricultural sector. Throughout the region of the Nation heretofore dominated by family farms which form the fabric of a strong rural society, such changes are spreading and are likely to be with us in the long term.

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RURAL FAMILIES: STEREOTYPES AND REALITY

By Gary R. Lee *

Many Americans, especially those who live in urban areas, believe that rural families are free from most of the problems that beset the rest of us. Coward and Smith (1982:77) describe popular stereotypes of rural families as portraying ". . . country living and family life as simple, pure, and wholesome; slower paced; free from pressures and tensions; and surrounded by pastoral beauty and serenity." The many social and personal problems that afflict American families are widely believed to be more prevalent among the urban population.

These stereotypes are not without some basis in fact. Divorce rates are lower in rural than urban areas (Brown, 1981). Farm residents evidence higher rates of interaction with kin than do nonfarm residents (Klatzky, 1972; Lee and Cassidy, 1985). Rates of drug use among adolescents are higher in urban than rural areas (Goe et al., 1985). Rural men and women tend to hold more "traditional" attitudes about family-related issues such as marital stability, premarital sex, and the labor force participation of married women (Glenn and Hill, 1977; Larson, 1978; Brown, 1981). These rural-urban differences in family behaviors and attitudes appear to have been quite stable and consistent over time. While the differences may be decreasing in some respects, they have not disappeared.

On the other hand, these stereotypes are deceptive in many ways. Economic conditions in rural areas of the United States are worsening rapidly, and many families are losing their farms or experiencing declining financial fortunes in agriculture-related businesses (Coward and Smith, 1982; Goudy and Dobson, 1985; Wilkening, 1981). Divorce, family violence, adolescent pregnancy, substance abuse, and mental health problems have become increasingly common among rural families in recent years (Brown, 1981; Cedar and Salasin, 1979; Christopherson et al., 1980; Coward and Smith, 1982; Rosenblatt and Anderson, 1981). Rural families are not at all immune from the trends that have affected American families in general over the past several decades.

Furthermore, the positive stereotypes about rural families ignore the considerable variation that exists among rural families according to regional location and farm versus nonfarm residence, among many other factors. There is no such thing as "The Rural Family" that can be described in simple, invariant terms. Family life among rural Americans is as varied and complex as it is among any other segment of our population, so no single characterization of rural families is accurate or appropriate. Nonetheless, we may examine

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rural-urban differences in several aspects of marital and familial behaviors in order to assess the extent to which residential location affects these behaviors, remembering that there is a great deal of variation within the rural and other residential categories that cannot be observed or explained by rural-urban comparisons.

The Marital Relationship

As popular myth suggests, rural residents are likely to marry somewhat earlier than are urban residents (Brown, 1981). Average ages at marriage in the United States generally have increased since the early 1970's, reversing a nearly century-long trend of decline. Rural residents have followed national trends. However, they still marry at somewhat younger ages than their urban counterparts, possibly as a consequence of lower average educational levels in rural areas. Earlier completion of education allows young rural adults to attain sufficient financial independence for marriage at younger ages.

Earlier ages at marriage, combined with lower educational attainments and the generally lower incomes of rural residents (Goudy and Dobson, 1985; Lee and Lassey, 1980) should result in higher divorce rates among rural couples. However, this is not the case. Divorce rates are now, and have consistently been, lower among rural than urban residents (Brown, 1981). As in the cases of other indicators of familial behaviors, trends in divorce rates in rural areas have followed those in the general population. This has meant a steady and substantial increase from the early 1960s through approximately 1980; followed by a stable or slightly declining rate in the first half of the current decade (Cherlin, 1981; National Center for Health Statistics, 1985). Throughout these changes in national levels of divorce, rural divorce rates have remained somewhat lower than urban rates while following the same overall patterns (Brown, 1981; Lee and Cassidy, 1985).

The explanation of this rural-urban difference in the probability of divorce is critical to our understanding of both rural family life and the dynamics of marital relations. However, this explanation has proven to be quite elusive. At first glance, the superficially obvious hypothesis would appear to be that marriages among rural residents are happier, and that spouses derive more gratifications and experience fewer tensions from their marriages than is the case among urban residents. This hypothesis conforms to the popular stereotypes about the less stressful lives of rural people generally, and married couples in particular.

Existing research, however, disconfirms this hypothesis quite conclusively. Studies of rural-urban differences in marital adjustment and satisfaction (Campbell et al., 1976; Lee and Cassidy, 1985; Schumm and Bollman, 1981; Targ, 1981) have reported uniformly that there are no such differences. Although rural marriages are less likely to end in divorce than urban marriages, they are no more (or less) satisfying to the individuals involved, on the average, while they endure.

This suggests that the lower divorce rate among rural residents may be due to constraints on their marital behaviors and choices rather than to the attractions of their marriages. There are at least two kinds of constraints that may be operative here. First, surveys have shown that rural residents have more negative attitudes toward divorce as a means of resolving marital difficulties than do urban residents (Glenn and Hill, 1977; Larson, 1978). This means that rural couples may have a higher tolerance of or threshold for marital unhappiness before they consider terminating their marriages, because they regard divorce as a more undesirable solution to their problems than do others. It also means that both the institution of divorce and divorced persons are more heavily stigmatized by community and reference group opinion among rural populations, making it less likely that couples experiencing marital difficulties will consider divorce to be a viable option.

Among farm families at least, the termination of marriage also involves the serious disruption of a joint economic enterprise. The spouse who leaves the farm must find a new means of support, and the spouse who remains experiences inevitable difficulties in maintaining farming operations without the assistance of the departed spouse. Studies of the division of labor among farm couples (e.g., Buttel and Gillespie, 1984) have shown that successful farming requires the extensive involvement of both spouses in revenue-producing activities, frequently involving off-the-farm employment as well as farming itself. The dissolution of marriage, then, also means the dissolution of an economic partnership which is often of critical importance to both parties and to their children.

Lower rates of divorce among rural married couples, then, do not imply that their marriages are happier than others. Instead, they indicate that there are more constraints on rural couples who might, under other circumstances, divorce as often as urban couples. Thus, while the lower rural divorce rates conform to our stereotypes about the positive features of rural family life, the reasons for these lower rates are not at all consistent with the stereotypes.

FAMILY AND KIN RELATIONS

In the United States, as in modern societies throughout the world, rural families tend to be somewhat larger than urban families. In our society this is attributable almost entirely to higher fertility rates among rural women. While average family size has been declining in the United States for some time, in both urban and rural areas, rural married couples are likely to both desire and have more children than their urban counterparts (Cogswell and Sussman, 1979; Schumm and Bollman, 1981; Pratt et al., 1984).

Rural-urban differences in fertility rates are not particularly large, and may have narrowed somewhat in recent decades (Schumm and Bollman, 1981). They are nonetheless real, however, and do appear to reflect residential differences in family size preferences rather than in success at family planning. This is another indication that rural residents have more familistic attitudes than do urban residents, and conform more closely to "traditional" family norms.

Rural wives and mothers are also somewhat less likely to be employed outside the home than their urban counterparts (Brown, 1981; Coward and Smith, 1982), although the proportion of dual-employment couples is increasing in rural areas as it is in the rest of society. The rural-urban difference in maternal employment, once again, is consistent with rural-urban differences in attitudes toward maternal employment (Glenn and Hill, 1977).

Since rural families are typically larger, and since familistic attitudes do seem to be somewhat more prevalent among rural residents, it is logical to assume that extended family and kinship relations are stronger and more viable among rural populations. Needless to say, this is also consistent with popular stereotypes. Research provides very little support for this hypothesis, however.

In two recent reviews of research on residence and kinship, Lee and Cassidy (1981, 1985) have concluded that there is little if any empirical basis for the idea that kinship relations are stronger in rural than urban areas. Some early scholars (Parsons, 1943; Wirth, 1938) contended that the process of urbanization tends to weaken kinship ties, based largely on observations of urbanites who appeared to be isolated from their kin. While it is true that urbanization generally results in a decrease in the occurrence of extended family households, at least in the long run (Lee, 1980, 1982), the United States has never been characterized by a high proportion of such households (Seward, 1978). Nuclear families have always been the norm in our society, for a variety of reasons. It also appears to be the case that urban residents in the early part of the twentieth century were isolated from their kin not because they lived in cities, but because they had recently migrated to cities. Migration reduces interaction with kin (Hendrix, 1976, 1979; Lee, 1980), so kin contact will be low during times of rapid urbanization.

Studies of residential variation in kinship interaction that have employed representative samples of significant populations have generally found little or no differences between urban and rural residents (Klatzky, 1972; Lee and Cassidy, 1985). These same studies, however, have shown slightly higher rates of interaction with kin among farm families than others. This is due to the fact that young adults who enter farming usually do so by means of inheritance, and until the point of inheritance one child of a farm family often remains on the farm as part of the family enterprise.

Lee and Cassidy (1985), based on analyses of a sample of elderly residents of Washington State, reported that farm residents were slightly more likely than others to interact frequently with their grown children and grandchildren. Farmers were also more likely to interact with sons than with daughters; all others maintained stronger ties with daughters. This indicates the more instrumental nature of kinship relations among farm families. Furthermore, interaction within farm families is often highly stressful, because of factors such as constant togetherness in both work and family relations (Rosenblatt and Anderson, 1981), the tension surrounding events such as the intergenerational transfer of the farm (Russell et al., 1985), and the economic vulnerability of the farming enterprise in recent years (Rosenblatt and Keller, 1983).

Lee and Cassidy (1985) also found that the lowest rates of interaction with kin occurred among rural nonfarm residents. These people were also less likely than residents of any other type of area to live near children or other relatives, apparently because young adults from rural nonfarm families still tend to migrate to urban areas for education and employment. These analyses show that variation in kinship interaction across residential categories is due to occupational factors rather than normative or other differences between rural and urban populations. The largest differences in kinship interaction appear between farm and rural nonfarm families, not between urban and rural residents.

There may be significant regional variation among rural families (as well as urban) in the viability of kinship networks that needs to be considered here, however. Heller and associates (Heller and Quesada, 1977; Heller et al., 1981a, 1981b) compared rural areas in Virginia and Nevada with an urban area in Ohio, and found the highest levels of kinship interaction and the most familistic attitudes and sentiments among the rural Virginians. Rural Nevada residents and the urbanites from Ohio were much lower on kinship interaction and orientations. This shows once again that there is a great deal of variation among rural residents in the strength of kin ties. However, it is not entirely clear from these analyses whether the stronger kinship networks observed among rural Virginians are attributable to their rural residence or their region of the country.

The rates of kinship interaction reported by Lee and Cassidy (1985) for their sample from Washington state are markedly lower than those reported for national samples (see, for example, Shanas, 1979) across all residential categories. Thus, it appears likely that residents of Western states, regardless of rural or urban residence, are less involved with their kin than others. This could be due to the recency of migration to the Western region. Nonetheless, it is clear that rural residents in general have no great advantage over urbanites in terms of the strength or viability of kinship networks.

CONCLUSIONS

It is probably fair to say that rural families, as a category, are no more afflicted with problems in family relations than are other families, although they do tend to face more severe economic problems (Lee and Lassey, 1980) and often deal with difficulties that are different in kind than those encountered by urban families. However, popular stereotypes endow rural families with all manner of advantages in terms of the strength of marital and kinship ties, less stressful lives, and more harmonious family relations in general. These advantages are illusory; the data do not support their existence. Policies developed for rural residents and their families need to be based on the realities rather than the myths.

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BACK TO THE FUTURE: RURAL AGING POLICY AT THE CROSSROADS

By The American Association of Retired Persons *

Life in small towns and rural communities is not what it used to be. It has never been totally understood by most policy makers and service providers. Popular images of quaint farms, rolling hills, and country inns represent romantic, not realistic, notions of rural America. A review of the current research literature indicates a growing awareness of the unique circumstances of life in these communities, an awareness that recognizes important changes in our concepts of rural living. Until recently, the concept of rurality represented closely related social, political, and economic traits—an interrelationship that simplified the task of policymakers and analysts. Today those traits are quite unrelated, and the concept of rurality has become primarily geographic (Gilford, 1981). As a result, policies and programs developed to address the problems of rural areas need to take into account the diverse, small scale, and scattered nature of rural towns and communities. (U.S. Department of Agriculture, 1977). This is particularly true in considering the needs of older Americans, who constitute a disproportionate and growing part of the low-income population in rural areas.

We are at a crossroads in regard to our efforts to enhance the quality of life of all older Americans. Recent cuts in Federal programs and services for the elderly have been substantial. Growing deficits and passage of legislation to balance the Federal budget underscore the need to find the best allocation of dwindling resources. Understanding urban-rural differences and future demographic projections can help policy interventions on behalf of the rural elderly to be as effective as possible in meeting their needs. This chapter examines the federal response to the needs of rural elderly Americans, highlights the diversity of needs among them, and recommends specific policy issues that warrant further consideration in order to adequately address their needs in the future.

Who are Rural Elderly Americans

In 1980, rural residents 65 years of age and older numbered 7,425,000 or 13 percent of the nonmetropolitan population. The percentage of older residents is highest in rural areas of under 2,500 residents (15.4 percent) and lowest in the large rural towns and open countryside. Older persons represent a smaller share of the population in urban areas, less than 11 percent (Beale, 1985). The rural elderly are concentrated in the West, South, and North Central regions, and particularly in the East South Central, West North Central, and South Atlantic portions of the country.[1]

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The rural elderly are an elusive group to define (Sloan, 1980). When considering the needs of the rural older population, it is important to distinguish between recent migrants and those who have "aged in place." Many older people moved to rural areas and small towns in the last 20 years. Researchers have concluded that recent migrants are more likely to be younger, male, married, less likely widowed, more likely to live in an independent household, and more likely to own their own home. (Status of the Rural Elderly, 1983) By contrast, long-term older rural residents are those who have been typically classified as left behind. Historically, persons who have chosen to leave nonmetropolitan areas have been younger, better educated, and in higher status occupations. The result of these population changes is to leave many rural areas with a high dependency ratio. As those areas become less able to attract new industry, and due to a reduced tax base, unable to provide an effective social service system, the result is an older population with considerable needs not addressed by policy makers.

Research has indicated that there are substantial differences between the urban and rural elderly; as well as between those rural elderly who are recent migrants and those aging "in place":

- *Housing:* While the rural elderly are more apt to be homeowners and to live independently than the urban elderly, they occupy a disproportionate share of the nation's substandard housing.
- *Income:* Elderly long-term rural residents are more likely to be poor than urban or migrant elderly. A larger part of the long-term rural elderly population lives below the poverty level, and has a more limited basis of income, because of scarcity of private pension plans, fewer employment opportunities, and less savings than their urban and migrant counterparts.
- *Transportation:* The rural elderly have fewer transportation alternatives than the urban elderly. While more possess their own cars, public transportation is less available in rural than urban areas.
- *Health:* Long-time rural elderly are also generally less physically healthy than their urban and migrant counterparts. They are more prone to chronic health conditions that limit their activities and have less access to quality health care facilities.

Policy makers must consider the needs and demands of two types of older rural residents now and in the future: those long-term residents who are aging in place, and those who have in-migrated, contributing to the overall growth in rural areas. A progressive policy response is needed to address the needs of both groups, particularly as those rural elderly who are more affluent now advance in age. In the future, their needs may become more similar to other groups in the older population and policies will need to consider those changing needs.

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[1] The sources for data and other information presented herein except as otherwise noted are drawn from "Status of the Rural Elderly," 1983, Volumes I and II, and "The Rural Elderly."

The Federal Response to the Needs of Rural Elderly Americans: Problems and Policy Recommendations

Concern among policy makers for the unmet needs of the rural elderly is not new. Awareness of the increasing percentage of elderly in the population, and increased concern for the special plight of certain groups among this population, have focused attention upon both the minority and rural elderly. Since the mid-1970's, the rural elderly have been the subject of greater research and debate, and the focus of special initiatives. Congressional response has not been insignificant: a Task Force on the Rural Elderly was established; hearings were held in rural communities throughout the country; and 1978 amendments to the Older Americans Act were adopted that mandated an increase in the allocation to rural areas as well as the implementaiton of a study to elevate the special problems of the rural elderly than for the urban elderly. Despite these efforts, federal programs continue to be for the most part less appropriate and beneficial for the rural elderly. The reasons for this are several: (1) most programs designed to help the rural elderly, whether Federal, State, or local, have either assumed the absence of significant urban-rural differences, or have chosen to ignore them; (2) the allocation of Federal resources to rural areas has not been enough to have any substantial impact on the needs of the rural elderly and (3) Federal programs have not fully taken into account the demographics of aging.

Congress faces a dilemma. The present demographics and migrational patterns of America's elderly show that they are increasing greatly both in their numbers and in their concentration in specific geographic areas in relation to younger population groups, significantly changing the economic base and need for services in many communities. At the same time, funds for most federal programs have been frozen, and services have been cut because of inability to keep pace with inflation. Recent enactment of the Gramm-Rudman legislation will result in further reductions in programs and services critical to the aged. To effectively meet the needs of the rural elderly population, and balance the federal budget, Congress will need to make important policy choices. The following statement provides a brief review of the existing federal response to the needs of the rural elderly and policy recommendations for the future follow.

SOCIAL SERVICES

The needs of the elderly in urban and rural areas are addressed through a wide range of community and social services, including senior centers, home health programs, counseling and case management, employment, education, transportation and volunteer opportunities. These services are financed by the Federal Government through the Older Americans Act (OAA), the Social Services Block Grant (SSBG), and most recently, the Section 2176 Medicaid Waiver.

THE OLDER AMERICANS ACT

The Older Americans Act has served as the core program of importance to older people for the past 20 years. Created during a time of increased public concern for the needs of the poor, the Act marked the beginning of a categorical approach to programs designed to meet the social and human services needs of the elderly.

Title III of the Older Americans Act as amended in 1973 strengthened the sub-state and area levels by providing for the development of a system of coordinated and comprehensive services in the areas of supportive and nutrition services which have been successful in enabling many older persons to live in their own homes or communities. The following are key issues confronting the provision of services under the Older Americans Act in rural areas.

Issue: Inadequate Funding Levels for Rural Areas

Nelson (1980) in a nationwide study of 137 area agencies on aging found that service availability was a critical problem for the rural elderly. Of 14 States surveyed, the rural agencies averaged 4.7 service options as opposed to 6.1 for urban agencies. The availability of programs mandated under the Older Americans Act such as information and referral services, in-home care, nutrition, housing and transportation, all suffer from under-utilization in rural areas because of the difficulties in making such services accessible. Information and referral services, as an example, are typically available by telephone. However, many who live in rural areas must make toll calls; and with the recent breakup of the Bell telephone system, some households have even had to give up their phones due to the increase in rates. Operating costs for many programs are generally higher in rural areas due to transportation needs of elderly and staff. Allocation formulas to Area Agencies on Aging do not realistically take these factors into account.

In the 1978 Amendments to the Older Americans Act, Congress included a number of significant changes in response to the needs of the rural elderly. These changes included the following:

- State plans must provide assurances that each fiscal year the state agency will spend 5 percent more than the amount expended in fiscal year 1978 for Title III services to older individuals residing in rural areas.
- There shall be both urban and rural representation on the Federal Council on Aging;
- Area plans must assure the use of outreach efforts that will identify individuals eligible for assistance under the Act, with special emphasis on rural elderly, and inform them of the availability of such assistance;
- The Commissioner shall give special consideration to the funding of rural area agencies on aging to conduct model projects devoted to the special needs of the rural elderly in the areas of health care, advocacy, outreach, and transportation.

As mentioned above, a major provision of the amendments required increased allocations in rural areas. The fact that they increased by 5 percent during this period did not mean that rural areas necessarily benefitted by this rule. According to the Congressional Report "Status of the Rural Elderly" (1983), there was no provision to assure that the fiscal year 1978 allocations on which the increase was based was equitably determined. Additionally, the fiscal restraints of operating Older Americans Act programs in rural areas make the effect of a rural allocation upon services only negligible because the mandatory increase is based upon current low levels" (Steinhouse, 1980).

Issue: Intrastate Funding Formulas

Presently, intrastate funding formulas focus on four criteria for distributing federal and state money to the elderly for social service and nutrition programs: the proportion of the population 60 years and older, the proportion of elderly persons who are in greatest economic need, those who are deemed socially disadvantaged, and those living in rural areas. However, only one-third of the states currently use a measure of ruralism.

Policy Recommendations

(1) The Administration on Aging should require that all States with high concentration of rural elderly increase the weight assigned to the rural factor.

(2) In order to ensure that resources are more adequately allocated for the rural elderly, the Administration on Aging should also consider basing the allocation criteria on the relative needs of the elderly in each State and the cost of providing a given service rather than on a national allocation level based strictly upon the population.

Issue: Status of the Administration on Aging

Another criticism of the Older Americans Act is the lack of coordination both between Federal and State agencies and within the community. Presently there are over 130 federal programs which directly or indirectly serve the elderly, each having different target populations, geographic boundaries, income guidelines, administrative and reporting requirements, and definitions of "elderly" and "rural." These inconsistencies create particular problems for the service delivery system in rural areas, many of which are also plagued by staffing and funding shortages.

The Older Americans Act as a whole, as well as subsequent Amendments, indicate that Congress intended for the Administration on Aging (AoA) to have the authority to advocate, plan, and coordinate activities for aging programs. Presently, AoA lacks the tools to accomplish this. Community-based coordination problems reflect the lack of effective coordination mechanisms at the federal level.

Policy Recommendation

Changing the current structure of the Administration on Agi should be considered when Congress reauthorizes the Older Americans Act. While the Administration on Aging should be retained, its coordinating authority would be vastly improved by designating responsibility for aging and aging-related policies to the Secretary of Health and Human Services. Since the Secretary already has overall responsibility for operations of the Social Security Administration, Health Care Financing, and other Federal agencies with large Federal expenditures on aging, this would be the most effective level for developing and coordinating a comprehensive national policy for the rural elderly.

SOCIAL SERVICES BLOCK GRANTS

Social and Community Services

Other social services programs funded by the Federal Government provide a variety of community and social services for the elderly. With the passage of the Omnibus Budget Reconciliation Act of 1981, funding for these programs has been folded into block grants. The four block grants that will be evaluated here are (1) Social Services, (2) Community Services, (3) Preventative and Health Services, and (4) Energy and Emergency Assistance.

The role that Social Services Block Grants play in providing services to the elderly has been a concern to the Congressional policy makers. This program consolidates into one all Title XX social services, day care, and local training funds. Critics of the program have opposed it because of the broad discretion allowed to states and the loosening of provisions that ensure services to vulnerable groups such as the elderly. Some states have used Social Services Block Grants creatively by combining them with Older Americans Title III service allocations and Title XX. Difficulties persist, however, because such approaches are not used by every state and funding is significantly below the 1981 level of $2.9 billion, although the program is called on to serve more people.

The Community Services Block Grant, which consolidated the major programs created by the Economic Opportunity Act of 1964, makes grants to States for community-based programs that offer health, nutrition, housing, and employment-related services for low-income persons. The effectiveness and impact of Community Services Block Grant funds on the needs of the elderly is not known. The fixed authorization level since 1981—taking no account of the increased need for services or of inflation—has resulted in a net loss of services to the elderly in most rural areas.

The Preventative Health and Health Services Block Grants are of great importance to the rural elderly because they cover preventive health service programs for screening, detection, diagnosis, prevention, and referral; community-based programs for delivering comprehensive health care; and the establishment of home health agencies in areas where services are unavailable. These programs are of particular value to the rural elderly, again because health care is less accessible to them. The impact of this block grant on the needs of the rural elderly is difficult to estimate, however, due to the fact that most States do not report the use of services.

The Low-Income Energy Assistance Block Grant provisions important to the low-income rural elderly are those requiring states to conduct outreach activities and to reserve a certain amount of funds for crisis situations. Sadly, authorization levels are now fixed for the program, which most likely will mean a net reduction in the amount of services available and outreach to the rural elderly in the future.

Issue: The Effectiveness of Block Grants for Rural Elderly

The move to block grant programs and the elimination and consolidation of several categorical grant programs represents an attempt to increase the efficiency and effectiveness of locally developed social services. Many States, however, have reduced the number of social services offered and curtailed administrative projects which were aimed at improving case management and service coordination. For those elderly persons living in sparsely developed areas with already inadequate resources, their situation will undoubtedly not improve under a block grant structure.

Policy Recommendation

Congress should increase funding for Block Grants programs to at least pre-1981 levels and strengthen administrative linkages between state plans under the Older Americans Act and those under Social Service Block Grants.

Issue: Support for Informal Support Systems in Rural Areas

Many rural areas lack adequate professional and paraprofessional staff to provide needed services to the elderly. This results in older persons having to rely on informal support systems—family members, neighbors, and volunteers. Presently, Federal policy recognizes the role and importance of informal support systems but has not provided the necessary incentives to expand their use.

Policy Recommendation

Federal policy should encourage the use of volunteers and family members in the provision of social services to the elderly through financial assistance and tax incentives.

TRANSPORTATION

Another issue of importance to the rural elderly, under the category of social services, is transportation. In general, Federal transportation policy has not recognized the special needs of the rural elderly. The lack of adequate transportation has been cited as one of the major barriers to services facing the rural elderly. According to a Senate Special Committee on Aging Report (1984), an estimated 7 to 9 million rural elderly lack adequate transportation and, as a result, are severely limited in their ability to reach needed services.

The lack of adequate transportation for rural older persons stems from several factors. First, their incomes are often insufficient to afford the high fares required to run rural transportation systems. Second, the dispersion of rural populations over large geographic areas complicates the design of cost-effective public transit systems. Finally, many transit vehicles lack the appropriate physical designs and service features needed by older persons.

Issue: Changing Role of the Federal Government

The demands of the elderly for specialized transportation are increasing. The rapid increase in the numbers of older people; the increased costs of car ownership, increasing dependence on alternatives; and a growing demand for mobility among the elderly are apparent. The role of the federal government in the provision of transportation is diminishing, while State assistance, primarily in nonurbanized areas, is increasing. Despite this fact, assistance to rural areas continues to represent only a small part of the dramatic increase in State financial assistance for public transportation.

Policy Recommendation

State and local governments will have to play a greater role in the provision of transportation services to the elderly. States with high populations of rural elderly should reassess their priorities with a view toward allocating more financial assistance for transportation designed to meet their service and design needs.

Issue: The Use of Volunteers for Transportation Services

The lack of public transportation systems in rural areas forces many elderly without their own cars to rely on friends and volunteers. Many rural social service providers look to volunteers to augment inadequate transportation programs by bringing the rural elderly to service centers or taking needed services to their homes. High insurance rates and inadequate reimbursement, however, have contributed to a gradual decline in the numbers of volunteers willing to transport the rural elderly.

Policy Recommendation

Policies which prevent the reimbursement of volunteers who provide transportation to the elderly should be eliminated. Congress should explore tax incentives for the use of one's car for these services, insurance policies which would make special provisions for volunteers, and increased resources for transportation services under the Older Americans Act and Social Services Block Grants.

HOUSING

Housing is another area in which special efforts have been directed toward the rural elderly but have failed to address adequately their needs. On the surface, it would appear that the rural elderly are better off than the urban elderly with respect to housing. In 1980, 84 percent of the rural elderly owned their own homes compared to 75.6 percent of the urban elderly. In addition, more rural elderly (89 percent versus 82 percent) have mortgage-free ownership. Because more of the rural elderly own homes, however, more of them can be expected to experience problems related to the maintenance and upkeep of their homes and to rising property taxes. The rural elderly are also more likely to live in substandard housing. Approximately 5 percent live in homes that lack a flush toilet, bathtub, shower, or hot and cold running water. Their homes are twice as likely to have plumbing problems and structural defects as those occupied by urban dwellers.

Issue: Imbalance in Housing Programs for the Elderly

The major housing programs of the Department of Housing and Urban Development (HUD) that are available to the elderly, including Public Housing, Section 8, Section 202, and Section 236, apply for the most part to renters. These programs primarily assist sponsors with mortgage insurance, interest reduction payments, or rent supplements toward providing rental cooperatives, nursing home and intermediate care facilities, and congregate housing projects. Most of the rural elderly own their own homes and thus are ineligible for these programs. Those programs designed for homeowners (Sections 115 and 312) are comparatively small, and program eligibility requirements make them unavailable to most of the rural elderly.

Housing programs under the Farmers Home Administration (FmHA), including Section 502 (loans) and section 504 (grants), have also been criticized for inadequate funding, complex bureaucratic procedures, and long-term monthly payments the elderly must accept in order to avail themselves of the programs.

Policy Recommendations

1. The focus in Federal housing programs for the rural elderly should be shifted to programs that would provide assistance with the costs of home maintenance and repair.
2. In light of cutbacks in Federal housing programs, particularly HUD Section 202, increased efforts should be made to ensure an equitable distribution of funds for new construction in rural areas.
3. The Farmers Home Administration and the Department of Housing and Urban Development should combine their efforts to channel increased funding for housing assistance to the rural elderly.

Issue: Income-Supporting Housing Service Availability

The desire of the elderly to maintain their independence and remain in their own homes is well understood by policymakers. Their ability to do so is equally dependent on the availability of adequate income support and housing services. Among the primary programs of relevance to the rural elderly in this category are reverse annuity mortgages and tax relief. Unfortunately, tax breaks are not available in many states and localities and therefore have a minimal impact on easing the burden for rural elderly. In addition, reverse annuity mortgages, which allow homeowners to use directly the equity they have in their homes, are dependent on the acceptance of local lending institutions and are presently not available in many rural areas.

Policy Recommendation

Home equity conversion mechanisms should be developed and expanded to enable older homeowners to convert their homes into income while still being able to live in them. Innovative home equity programs such as Grannie Mae and the Century Plan should be replicated by financial institutions in rural areas.

MEDICAL CARE

Health status is a prominent concern for all older people. Serious deterioration in health status can lead to increasingly limited alternatives in daily living. There is a general consensus that the rural elderly have a greater incidence of health problems than the urban elderly because of rural-urban differences in the knowledge of medical problems and attitudes toward medical treatment, as well as unmet needs in the availability of medical resources.

A number of programs have been developed to improve medical care delivery in rural areas. Such efforts have included Health Maintenance Organizations (HMOs), Mobile Health Units, and Emergency Medical Services Programs. Despite these efforts, several factors create problems and barriers to the provision of adequate medical care in rural areas. These include the inability of many rural health and social service organizations to compete for grant funds, the inability of rural areas to meet the necessary matching requirements, the lack of public and private health insurance coverage in rural areas, difficulties in recruiting staff, and transportation and travel costs.

Issue: Imbalances in Funding Between Urban and Rural Areas

Medicare and Medicaid are the two medical care programs most important to the elderly. Medicare was enacted in 1965 to insure the cost of health care for the elderly. As insurance for short-term acute illness, it covers most of the cost of hospitalization, limited coverage for home health care, and physicians' services. The Medicaid program provides medical assistance for low income persons. Many elderly receive coverage through State Medicaid Programs.

The elderly in rural areas do not receive a fair share of coverage under Medicare or Medicaid. A report on rural health (Wartow) pointed out the imbalance between funding levels for urban and rural areas. In 1976, 31 percent of the elderly lived in rural areas, yet rural areas received only 25 percent of all Medicaid payments and 28 percent of Medicare payments. In contrast, urban areas had 69 percent of the elderly population, yet received 75 percent of all Medicaid payments and 72 percent of all Medicare payments.

Causes cited for the unequal distribution of Medicaid funds include:

1. Most of the rural poor live in the South, where Medicaid programs are least adequate.
2. Restrictive assets tests prohibit ownership of even a small plot of land, thereby making many rural elderly ineligible.

Wartow also identifies a number of factors contributing to lower Medicare payments for rural residents. These include:

1. Rural physicians charge approximately 25 percent less for their services than urban physicians.
2. In the past, Medicare has not paid for the services of nurse practitioners and physicians' assistants unless their services accompanied physicians' services.
3. Medicare has only limited home health and nursing home benefits and a higher percentage of the rural elderly need those services.
4. Because of high poverty rates among the rural elderly, many cannot afford the deductible and coinsurance requirements of Medicare.

Another area of concern in regard to Medicare is the prospective payment system (PPS). Many rural hospitals employ higher numbers of part time staff due to fluctuating admissions. The rural wage index is generally lower than it should be. Therefore, many rural hospitals are suffering from underreimbursement. If this trend continues, many rural elderly, who already represent a medically underserved population, may not have hospital services in the future.

Policy Recommendations

1. The Prospective Payment System should be revised to refine area wage indices.

2. Congress should consider revising the reimbursement mechanisms for Medicare and Medicaid that are based on "usual and customary fees and reasonable costs." These policies have tended to reinforce the maldistribution of health care personnel and facilities in rural areas.

Low Income Assistance Programs

The two most important low income assistance programs for the elderly are Supplemental Security Income (SSI) and Food Stamps. SSI is a cash assistance program that provides monthly payments to low-income blind and disabled individuals. The Food Stamp Program provides a monthly supplement in the form of redeemable coupons to purchase food. Need for the Supplemental Security Income Program is determined through a means test which is an evaluation of income and assets in relation to established maximum standards. At the present time, recipients cannot receive more income than the monthly Federal SSI limit: $325 for individuals and $488 for couples. In addition, assets cannot exceed $1,600 for an individual and or $2,400 for a couple. The income limit has been criticized by many policy makers as too restrictive. Presently, it equals only 75 percent of the poverty level for an elderly person living alone ($5,234). Thus, a large group of people that the census defines as living in poverty are ineligible for SSI.

Issue: The Assets Limits Provision

The assets limits under the Supplemental Security Income Program is detrimental to the rural elderly in several respects. First, persons with income-producing assets cannot achieve eligibility because the income from these assets may be credited toward achieving the income guarantee. Many rural elderly are ineligible because they own farm land that may be viewed as an income-producing asset. Secondly, the determination of eligibility is also detrimental to the rural elderly who have been self-employed. Some farmers have been able to pass the Social Security Income test because they are able to document their low career earnings. However, many rural elderly cannot, and the assets test becomes an "all-or-nothing" proposition that renders many low-income elderly ineligible. Finally, the asset limit has not significantly increased since 1974, thereby excluding from the program many who are in need of SSI.

Policy Recommendations

1. Congress should explore alternatives to the assets test which would require many older rural persons to sell their farmland before they can qualify for SSI. One option would be to exempt nonincome producing farmland from the assets test. Another

option would be to annuitize the value of assets, allowing individuals with resources that can be converted to cash to receive SSI while spending down on their resources over time.

2. The federal portion of SSI should be increased to 150 percent of the poverty level.

FOOD STAMPS

Issue: Low Participation Rates

Approximately 2 million poor people 60 years of age and older participate in the food stamp program. Less than half of those eligible receive benefits. For the isolated rural elderly, the major problem has been a lack of knowledge regarding availability of the program.

Policy Recommendations

1. Recently Congress provided for streamlined food stamp application through Social Security offices. These efforts should be enforced to ensure widespread implementation.
2. USDA outreach efforts should target the elderly in rural areas and develop programs to facilitate their applications for assistance.

CONCLUSION

With the lack of a national policy on rural aging, the problems of this group will always be difficult to address. The significant economic and demographic changes occurring in rural America requires a more concerted effort to correct the present system of confused and contradictory policy goals. Those concerned with the needs of the rural elderly need clear policy direction and a framework for integrating current and future federal efforts. Until that occurs, the "good life" will not be a reality for our Nation's older rural population.

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THE FARM CRISIS AND THE RURAL COMMUNITY*

By William D. Heffernan and Judith B. Heffernan**

What began as a farm problem and evolved into a "farm crisis" has quickly become a rural problem and thus a "rural crisis" for many rural communities. The methods utilized by communities to cope with these changes forced upon them will likely determine the nature of their future. Communities which take seriously the need for "social development" as they seek economic development will have a much better chance of remaining viable and even growing.

EVOLUTION FROM "FARM CRISIS" TO "RURAL CRISIS"

Data collected and analyzed by the Economic Research Service of USDA in January 1985, indicated that about one-third of the farmers with sales over $100,000 have a debt to asset ratio of 40 percent or greater. These "highly leveraged" and "very highly leveraged" farms hold about half of the over two billion dollars of farm debt in this country. The survival of these operations is very questionable. The number of highly leveraged farms increased by over 40 percent between January 1, 1984, and January 1, 1985. Obviously, the problem is greater in some regions of the country than in others.

The economic problems on farms have rapidly begun to be felt by an ever enlarging number of businesses in rural communities. As farms, agribusiness firms, and families depending on these firms for their economic support have experienced difficult economic times, the impact has widened to be felt in the remaining private sector, as well as the public sector, of the rural community. In a growing number of rural communities, school officials, health care providers and planners, and other private and public officials have had to face the problem of significantly fewer economic resources.

Importance of Agriculture to Rural Communities.

Recent research has suggested that agriculture is not the major source of income for most rural counties. In Missouri, for example, transfer payments represent a more important source of income in a larger number of rural counties than does agriculture. This would seem to suggest that the impact of financial problems in ag-

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riculture could not have an overwhelming impact on rural communities.

Evidence to the contrary seems to be growing. In much of rural America, the farm crisis is having a major impact on the rural communities. One of the questions to be answered is why this is true even though many of these rural communities are not that dependent on agriculture.

Part of the reason why the impact of agriculture is greater than the source of income studies suggest may result from the multiplier effect. Much of the farm income received by farm families is spent in their local communities. This generates income for others in the private and public sectors.

A second reason the farm crisis has lead directly to a rural community crisis may result from the fact that the economic base of many rural communities if very fragile. The loss of any major income source often leads to a community financial crisis. In some Missouri communities the farm crisis is exacerbated because local industries have also closed. Even though many rural industries pay relatively low wages, when farm families lose this source of nonfarm income, the survival of their farms becomes even less certain. Many of the national/international factors which have lead to the "farm problem" have also had an impact on many segments of the nonfarm economy with shoes and textiles being good examples. For some rural communities, the rural crisis is the result of more than just the farm crisis.

A third possible explanation for the close relationship between farm crisis and rural crisis may result from the psychological and social impacts the farm crisis is having on the rural community. Using data collected from former farm families, we will discuss implications for communities. We are suggesting that for any rural development activity to be successful, the community's mental health must become a major focus of concern.

EMPIRICAL STUDY

Sample

In the winter of 1985, we received a grant from the Economic Research Service to interview families who had been forced out of farming for financial reasons. The study was to focus on the experiences they had in transferring out of farming, the assistance they received from various organizations in the process, and the assistance they felt would have been helpful during this time of transition.

A list of all farm families who had been forced out of farming between January 1, 1980, and December 31, 1984, in a north central Missouri county was developed. The county was selected because it was one of the major agricultural counties in the State and because it was located more than 50 miles from a metropolitan area, thus making it more difficult to find good nonfarm jobs to subsidize the farming operation. From the original list of 46 families, 40 families were interviewed. Two families could not be traced. One family was not interviewed because of serious illness and one family refused to be interviewed, saying they simply could not bare to talk about the experience. Two families were omitted from the original analysis because their financial problems were accompanied by illness and retirement. In most cases, the husband and wife were both present for the interview. Families who had moved far from the county were interviewed by phone.

Framework

Studies conducted in the late 1970's suggested that contrary to the quiet, peaceful life artists often depict farm life to be, farming had become one of the most stressful occupations in the country, even during the financially good years. As the major financial stresses have mounted, the total stress borne by farm families has increased tremendously.

We hypothesized that a totally life changing experience such as the loss of a family farm would push many farm families into a psychological and emotional situation for which they had no previous experience and for which they had developed no coping mechanisms. Mental health literature suggests that when individuals are faced with traumatic experiences for which they have inadequate coping mechanisms, they are likely to experience characteristics of depression.

Figure 1 illustrates the consequences to which this deteriorating situation can lead. As stress increases to levels beyond which the person can cope, the individual (family) moves along the continuum from left to right.

FIGURE 1.—Human reactions to increasing stress and helping responses Needed

Problem:	Stress	Crisis	Depression	Destruction
Solved By:	Self-Help	Help from caring persons	Therapy from trained professional	Therapy from specialized professional

Lesser amounts of stress can be dealt with through numerous forms of self-help. For those with much heavier levels of stress who have not moved beyond the crisis stage, supportive family and friends and such caring professionals as pastors, extension workers, and lenders can be of assistance in moving the person back from the brink of depression, back from crisis, to a healthier emotional condition.

When individuals (families) move on to clinical depression, increasingly sophisticated professional assistance (i.e., professional therapy) is needed to help them return to health. If such help is not received, individuals can be predicted to move along the continuum toward such destructive behaviors as drug abuse or suicide.

The monthly publication of the American Psychological Association, *APA Monitor,* stated in April, 1985 that "The mental health of American farmers is at an all-time low, experts say." In 1984, the suicide rate among farmers in Missouri was twice that of the remainder of the population. Seventy-one men officially took their own lives that year in Missouri. During the interviewing process, a number of the men gave both subtle and not-so-subtle indications that they had seriously considered taking their own lives. One man told of taking his gun to the field and sitting there for hours before deciding not to pull the trigger.

Reactions to the Stress of Leaving Farming

One of the concerns of the study was the amount and nature of the stress experienced by the farm family as they were forced to leave farming for financial reasons and thus make a major change in their way of life.

When asked how much the stress in their family had increased in the process of leaving the farm, the families reported an average of 8.1 on a scale of 0 (meaning no particular increase) to 9 (meaning an enormous increase). When asked how concerned they were with the effects of stress on their family, the respondents indicated much concern by averaging 7.6 on a scale of 0 (no concern) to 9 (a great deal of concern).

The husband and wife were each given a copy of possible reactions to stress and were asked to indicate whether they had experienced the reaction during the transition out of farming and whether they had continued to experience the reaction. These data are reported on Table 1.

TABLE 1.—PERCENT OF RESPONDENTS REPORTING COMMON REACTIONS TO STRESS

	Have experienced		Continue to experience	
	Men	Women	Men	Women
Became depressed	97	100	56	72
Became withdrawn from family/friends	62	66	26	41
Became nauseous, lost appetite	49	47	18	34
Could fall asleep at night, but would awaken and be unable to return to sleep	77	53	41	38
Experienced feelings of worthlessness	74	69	49	41
Became restless, unable to concentrate agitated	72	81	41	38
Did anything to keep busy	67	41	46	31
Increased smoking	23	25	18	22
Increased drinking	18	12	10	6
Showed increased fear of things, people	38	31	18	25
Became more physically aggressive	49	31	26	9
Experienced great changes in moods, from low to high and back	67	81	36	47
Became confused	54	31	31	19
Became unable to think or respond logically	31	34	13	19
Became unusually silent for periods of time	62	53	44	28

They were first asked directly whether they had become depressed. All of the women and all but one of the men indicated they had. Almost three-fourths of the women and over half of the men indicate they continue to experience depression. Since the remaining 14 reactions are characteristics frequently associated with depression, it is not surprising that a large proportion of respondents also indicated they had experienced such reactions.

Two-thirds of the respondents indicated they had withdrawn from family and friends at some point and about one-third continue to be withdrawn. About half of the respondents had eating disorders and sleeping problems were acknowledged by over three-fourths of the men and half of the women.

Three-fourths of the men and over two-thirds of the women said they experienced feelings of worthlessness. Over 40 percent of men and women continue to experience feelings of worthlessness. Over three-fourths of the men and women became restless and unable to concentrate and about half of them indicated they did anything to keep busy.

These respondents also indicated an increase in substance abuse. A fourth of the men and women increased smoking and that continues at only slightly lower levels. Eighteen percent of the men and 12 percent women said they increased drinking and 10 percent of the men indicate they continue to drink at an increased level.

Half of the men and a third of the women indicated they became more physically aggressive.

Half of the men indicated they became confused and a third of the men and women indicated they became unable to think or respond logically or rationally. Over two-thirds of the respondents indicated they experienced great changes in moods from low to high and back again and over half indicated they became unusually silent for long periods of time.

Implications for Individuals of High Stress Levels

Although mental health professionals cannot make clinical diagnoses based on such group data as we have just discussed, the evidence suggests that many of these former farm families are suffering such high levels of stress that they very likely need professional assistance. Obviously, the mental health of this segment of the population is not good.

Assistance Received When Leaving Farming

Another series of questions focused on what assistance the families were offered and/or received from churches, government agencies, or other organizations in the community when they were in the process of getting out of farming. Only five families could identify any such assistance received. Two families identified Pell Grants (Federal educational assistance) which enabled the husbands to continue college educations. One family identified stress seminars offered by the Extension Service. Of the two families who received help from their church, one was given a farewell party when they left the community and the other was given assistance to attend seminary to prepare for the ministry.

The respondents were asked in an open-ended question to look back and identify any assistance from anyone, group, or agency that would have helped them stay in farming if they so desired. Their answers included the following: lower interest rates, higher commodity prices, better government policy, more fairness from their lender, help in finding another job, someone in agencies who would answer their questions, and food stamp and medicaid help when they needed it.

Most of the respondents did not attempt to blame all of their problems on the government, the lender, or other organizations. In fact, from the perspective of positive mental health, they probably accepted too much of the blame on themselves.

Most Helpful Assistance Given

The respondents were also asked to identify the assistance they received from others which was most helpful. The question was open-ended and the respondents could give more than one answer. The vast majority of the responses could be summarized as "social support". Specifically, the respondents indicated that moral and emotional support, someone who listened and talked to them, and persons who provided encouragement and understanding were the most valuable assistance they received.

In another question, 13 percent of the respondents indicated there was no one with whom they could talk about their situations that seemed to understand or be concerned. Many of these families felt abandoned by their communities. A fourth of the families indicated that their community was not at all supportive. Some felt the community condemned them. On the other hand, a fourth of the respondents indicated their communities actively expressed support for them and 44 percent said their communities were somewhat supportive.

BEYOND THE DATA: REFLECTIONS AND SUGGESTIONS

We have presented these data to numerous farm groups across the state of Missouri, to farm groups in several other states and to the national meetings of some rural groups. The reactions of listeners has provided us with an interesting validity check. We continue to be amazed at the number of persons who come up to us after presentations and indicate that we have been telling their story, that we seem to know what is happening in their farm family. Many families who tell us that their farm will probably survive economically, tell us that they are suffering from the same reactions to stress that those forced out identified. They are seriously questioning whether farming is worth the effort or the emotional toll it is taking on their families.

In the recent Farm and Rural Life Poll of over 2,100 Missouri farm families (Rural Sociology Department, 1985), about half of the farm families with sales of over $40,000 indicated they were seriously concerned with the debt on their farms. This number goes up to 77 percent for those farm operators less than 65 years of age. We suggest that many if not most of these farm families are experiencing reactions to stress, perhaps even depression.

The understanding of the data is not confined only to farm families. Some of our most attentive audiences have included bankers and other agribusiness persons and their families. These persons confess to greatly increased levels of stress in their own lives and jobs.

Collective Depression?

Mental health professionals talk about depression being contagious. It is not at all uncommon to see depression spread from one family member to another. But it can also spread outside the family. Today we are seeing what might best be described as "collective depression" in many of our rural communities. This takes the form of extreme pessimism; loss of hope; increased conflict and antagonism between individuals, organizations, and communities; and loss of support for many of the community activities.

One of the major characteristics of individuals experiencing extreme stress or depression is withdrawal. Our farm families told us that when they were farming, they were very active in community activities. When they were forced out of farming, they became much less active in the community. They withdrew taking with them their leadership skills and, in a sense, their personal investment in the community.

Because they have withdrawn, these families do not usually reach out and seek help. This presents a major dilemma for help providers because most of our government programs, as well as the private help available, requires individuals to take the initiative in requesting assistance. Clergy tell us that they will help families in any way they can if the families will just tell them they need assistance. Ashamed, unwilling, or unable to verbalize their needs, many of these hurting rural families are nonverbally telling of this need and of their depression by withdrawing. Thus, few of our government programs are effective in reaching them.

What the Community Can Do

Community programs must be developed which reach out for families experiencing extreme stress. The community must reach out before the families move so far along the continuum toward depression that only trained professionals can be of assistance.

Historically, rural communities have been known for the strong social support systems they provide. Some of the community preference studies done in the 1970's suggested that most persons preferred small towns and rural areas (Zuiches, 1982). Often the respondents emphasized such noneconomic amenities as a social interaction pattern which attracted them to rural areas.

During the past couple of decades, however, modern communication and transportation systems, along with the commuting patterns they facilitated, worked against informal friendship patterns that had characterized rural communities. The historically more personal friendship patterns of rural areas began to increasingly resemble the more impersonalized ones characteristic of the patterns in urban areas.

Special efforts need to be made on the part of church, social, and community organizations to include financially and emotionally stressed families in their social activities. Some communities are establishing formalized social support groups where men, women, and youth come together to share their feelings and concerns. Other communities are placing more emphasis on the traditional organizations and networks, but are making an additional effort to increase these activities and involve all members of community, especially those who are felt to be "high risk families".

A new emphasis on social development can be compatible with economic development. Although many rural communities still have a special night in which stores remaining open during the evening, this old rural tradition is being lost. Today, farm families indicate they can only afford gas to come to town once a week, and thus they are withdrawing from many community organizations.

With little effort, it would be possible to enhance both the economy and the social life of the community. Youth, church, farm, and other communities organizations could hold meetings during the earlier part of the evening, and recreational activities such as dances or movies shown on VCR's with large screens could be in church basements, schools, or fire stations. During this time, social service offices and local retail establishments could be opened. Such a community effort would encourage families to support local businesses, while at the same time enhancing the social activities and the collective mental health of the community.

WHAT CAN BE DONE FOR COMMUNITIES?

While the continuum on Figure 1 was designed to be appropriate for individuals and for families, it seems appropriate also for communities. One can conceive of communities in which stress and crisis are not properly identified and addressed moving along the continuum from stress to crisis to "collective depression" and to possible decline or extinction.

Collective depression (extreme community pessimism) makes the attraction of new economic ventures in a community very difficult. A rational approach to such collective depression requires that it be faced directly. Often collective depression is regarded as an extraneous negative attitude that could be easily altered if community residents would simply think "positive thoughts." Collective depression, just like individual depression, is a reality that positive thinking will not eliminate. Neither will continuing to deny its existence enable a community or an individual to move back on the continuum toward a healthier condition.

Labeling the situation in a community a crisis, if it is a crisis, provides a public admission that the social organization of the past is presently inadequate. This labeling enables the community to get beyond denial and on to action.

Activities and programs can be developed which will directly address the issue. The consequence of such activity will lead to a higher quality of social life in the community, while also contributing to economic development. It is doubtful that rural economic development programs which do not acknowledge collective depression will be anymore successful than job training programs which do not address high levels of individual depression and low self esteem faced by many of the potential workers.

The secret to survival for many of our rural communities seems to depend on whether the community is willing to clearly spell out the problems faced and creatively develop strategies of action for dealing with each of them. Although a community crisis is a critical situation, it also presents the community with the opportunity to do social and economic development planning not possible during the "good times". Such opportunities can and are leading communities to a renewed sense of relateness and even to a needed "fresh start."

ANALYSIS OF FARMERS LEAVING AGRICULTURE FOR FINANCIAL REASONS: SUMMARY OF SURVEY RESULTS FROM 1984

By Daniel Otto *

Much of the attention in the current farm financial crisis has focused on the farm and the bank levels, probably because of the relatively greater accessibility of data at these levels. However, the implication of the farm level problems for the economic and social institutions of rural communities also deserves attention. Although many of the forces of change and problems in rural communities transcend the current farm financial crisis, the present debt and income difficulties appears to have exacerbated the economic and social problems in rural communities. The present threat to the survival of many farms and the possibility of losing an additional 5 to 10 percent per year for several years has serious implications for the health of rural communities.

In order to learn more about the implications of the current farm financial problem for rural communities and farm structure and to anticipate impacts to communities and structure of agricultural ownership in rural areas, a survey was conducted to collect information on the status of farmers leaving agriculture. Since the whereabouts of farmers who had first left agriculture was uncertain, a reporting approach was used where the Extension Office in each county was asked to supply the information on individual cases of farmers leaving agriculture for financial reasons.

SURVEY RESULTS

The survey information collected from 51 county offices represents 482 cases of farmers who have left agriculture for financial reasons. The age, size, and experience characteristics of farmers in our sample is within a standard deviation of the values from the 1984 survey of farmer debt conducted by Iowa Crop and Livestock Reporting Service and Iowa State University. The average age of farmers in our sample is 42.1 years with an average of 17.8 years of experience and 401.7 acres compared to 54 years of age, 29 years of experience and 447 acres in farming found in the March 1984 survey. The comparable values from the 1982 Census of Agriculture for Iowa are 47.6 years of age for the operator; 19.9 years in farming and an average farm size of 283 acres.

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TABLE 1.—SUMMARY STATISTICS OF IOWA FARMERS QUITTING FOR FINANCIAL REASONS DURING 1984

	Mean	Std. dev	N	1982 (ag census)	1984 CLRS survey
Husband's age	42.1	10	482	47.6	54
Number of children	1.8	1.4	476		
Years farming	17.8	10.7	481	19.9	29
Acres farmed	401.7	266.3	449	283	447

Number of Dependents under 18

No. of children	Frequency	Percentage of total
0	116	24.4
1	68	14.3
2	158	33.2
3	81	17.0
4	37	7.8
5	6	1.3
6	9	1.9

Farm Type Characteristics

Primary farm type	Frequency	Percent
Grain	84	(17.5)
Cattle and grain	139	(28.9)
Hog and grain	163	(33.9)
Beef	42	(8.7)
Dairy	53	(11.0)

The methods of farmer liquidation given by the county extension offices are listed in Table 2. Although the foreclosure and bankruptcy options for liquidating farmers receives the most publicity, the method of simply selling out and paying off debt appears to be the most common approach chosen for exiting from farming as indicated in our survey with 216 of the cases (45.6 percent) reporting this approach. The foreclosure approach used by 23.3 percent of the cases was the second most common method given for exiting. Voluntary conveyance and filing for bankruptcy represent 11 percent and 19.7 percent respectively of the reasons given for leaving farming. The fact that 19.7 percent of these cases ended up in bankruptcy provides one means of estimating the total number of farmers leaving agriculture during 1984, although these results should be interpreted with caution. Based on information from Iowa's two bankruptcy courts, there were approximately 600 bankruptcies in the state of Iowa during 1984. If bankruptcies have occurred at the same rate statewide as in our survey, this would imply that approximately 3,000 farmers left agriculture for financial reasons in 1984. Since bankruptcy is one of the more visible means of leaving farming, this may be a conservative estimate of the total number of farmers leaving agriculture for financial reasons. In addition to the financial reasons, there may be other reasons for leaving farming such as retirement.

TABLE 2.—METHOD OF EXITING FROM FARMING

	Frequency		Percent of total	
	First reason	Second reason	First reason	Second reason
Sold out and paid debts	216	1	45.6	5.8
Foreclosed on by lender, assets repossessed	110	6	23.3	35.3
Voluntary conveyance of assets to lender	52	5	11.1	29.4
Filed for bankruptcy	93	5	19.7	29.4

The reasons given for how farmers became overleveraged are listed in Table 3. Natural disasters such as drought was given for 97 of the cases or 21.2 percent. Land purchases was given as a primary reason in 126 cases or 27 percent. Construction of livestock facilities or machinery purchases was given as a primary reason in 21.8 percent of the cases. Expansion to accommodate family members was a reason in 27 or 5.9 percent of the cases. In a final category, poor general management and losses from speculation were also given as reasons why farmers became overleveraged in 7.6 percent of the cases.

TABLE 3.—HOW FARMERS BECAME OVERLEVERAGED

	Frequency		Percent of total	
	First reason	Second reason	First reason	Second reason
Natural disaster	97	17	21.2	12.0
Land purchases	126	21	27.5	14.8
Construction of livestock facilities expenses	58	26	12.7	18.3
Machinery purchases	42	43	9.1	30.3
Expansion to accommodate family member	27	7	5.9	4.9
Poor general management, board of trade, all the above	35	12	7.6	8.5
Other	72	16	15.7	11.3

Source: Survey of Iowa County Extension Offices, 1984 to 1985.

The current and expected residential status of farmers who have quit for financial reasons are given in Table 4. In terms of their current status, almost half the farmers are still living in the same house with another 27.3 percent moving to a new residence within the same community. Those farmers leaving the community—an estimated 13.2 percent left the State with another 10 percent moving out of the community but still living within Iowa. The expected status of these farmers one year from now indicates that approximately 26 percent, versus 23 percent in the current year will have left the community. The biggest change appears to be a shifting from farmers moving from their original house to another residence within the same community. The percentage who expect to be still living in the same house declines from 49 to 41 percent in one year while those moving to a new residence increases from 27.4 percent to 32.6 percent. While the 23 to 26 percent of farmers who have left farming for financial reasons are expected to leave their communities, this percentage is not as large as originally expected due to the widespread farm problem.

TABLE 4.—CURRENT AND EXPECTED RESIDENTIAL STATUS OF IOWA FARMERS WHO HAVE QUIT FOR FINANCIAL REASONS, 1984

	Where do they live		Expected status, 1 year later	
	Frequency	Percent of total	Frequency	Percent of total
In the same house	230	49.3	171	41.3
Moved to nearby rural residence or to town in same community	128	27.4	135	32.6
Moved out of county but still in State	47	10.1	50	12.1
Moved out of State	62	13.2	58	14.0

It is possible to get more information on the characteristics of ex-farmers who are leaving their community by cross listing for age, number of dependents, and size of farm (Tables 5 to 7). The data in Tables 5 and 6 indicate that a relatively large share of the farmers leaving their community and the state are in the younger (under 45) age categories. Since farmers in this age range are also likely to have more dependents, a majority of the farmers who have left the state have dependents who may also be leaving their communities. Table 7 indicates that a relatively large share of the farmers leaving their communities are leaving smaller farms of less than 250 acres, although all farm sizes are represented. There is some good news in these figures for rural communities in that the impact of farmers leaving agriculture may not be as large as originally expected due to readjustments and social connections within rural areas. However, if farm and off-farm opportunities do not improve within the next several years, this percentage of farmers leaving their communities may increase beyond percentages noted in this table for the group displaced in 1984 as well as in future years.

TABLE 5.—FARMER AGE BY CURRENT RESIDENCE STATUS: NUMBERS AND PERCENTAGES

Age	In same house	Moved to nearby town or rural residence	Moved out of county, in State	Moved out of State	Row totals
Less than 35	39 (8.32)	38 (8.10)	13 (2.77)	19 (4.05)	110 (23.5)
35 to 44	72 (15.35)	48 (10.23)	16 (3.41)	24 (5.12)	160 (34.1)
45 to 54	71 (15.14)	26 (5.54)	12 (2.56)	11 (2.35)	121 (25.8)
55 to 65	46 (9.81)	15 (3.20)	5 (1.07)	6 (1.28)	72 (15.4)
More than 65	2 (.43)	1 (.21)	1 (.21)	2 (.43)	6 (1.3)
Total	230 (49.04)	128 (27.29)	47 (10.02)	62 (13.22)	469 (100.0)

TABLE 6.—DEPENDENTS BY CURRENT RESIDENCE: NUMBERS AND PERCENTAGES

Dependents	In same house	Moved to nearby town or rural residence	Moved out of county, in State	Moved out of state	Row totals
0	60 (12.61)	34 (7.14)	8 (1.68)	9 (1.89)	112 (23.5)
1	42 (8.82)	15 (3.15)	3 (.63)	11 (2.31)	71 (14.9)
2	75 (15.76)	45 (9.45)	21 (4.41)	18 (3.78)	160 (33.6)
3	36 (7.56)	22 (4.62)	9 (1.89)	12 (2.52)	79 (16.6)
4	13 (2.73)	11 (2.31)	7 (1.47)	7 (1.47)	38 (8.0)
5	4 (0.84)	1 (.21)	0 (0.00)	1 (.21)	6 (1.3)
6	6 (1.26)	0 (0.00)	1 (.21)	2 (.42)	9 (1.9)
8	0 (0.00)	1 (.21)	0 (0.00)	0 (0.00)	1 (.21)
Total	236 (49.58)	129 (27.10)	49 (10.29)	60 (12.61)	476 (100.0)

TABLE 7.—ACREAGE BY CURRENT RESIDENCE STATUS: NUMBERS AND PERCENTAGES

Acreage	In same house	Moved to nearby town or rural residence	Moved out of county, in State	Moved out of State	Row totals
Less than 100	19 (4.29)	8 (1.81)	4 (.90)	5 (1.13)	22 (5.6)
100 to 249	48 (10.84)	38 (8.58)	13 (2.93)	26 (5.87)	113 (28.7)
250 to 349	48 (10.84)	36 (8.13)	9 (2.03)	9 (2.03)	91 (23.1)
350 to 500	51 (11.51)	16 (3.61)	11 (2.48)	10 (2.26)	81 (20.6)
More than 500	49 (11.06)	25 (5.64)	7 (1.58)	9 (2.03)	86 (21.9)
Total	215 (48.53)	123 (27.77)	44 (9.93)	59 (13.22)	443 (100.0)

An examination of the employment status of the husband and wife who had previously been involved in farming gives some indication as to why the percentage of farmers leaving the rural communities is under 25 percent. Table 6 indicates that approximately 15 percent of those farmers who have left agriculture within the past year are still unemployed. Only 12.8 percent of these farmers are working on a local farm, and many of these could be a situation where farmers are moving back into a partnership with their family. Another 25.5 percent are working with local agricultural businesses, and 31.7 percent are working in nonagriculturally related businesses. Other employment arrangements account for 12.6 percent of the cases. This question did not distinguish between jobs held by farmers prior to leaving farming versus those acquired after exiting from farming. Since many Iowa farmers already have off-farm employment, many of these farmers who have left agriculture may have been forced into relying on only their off-farm employment opportunities. These factors emphasize the importance of the non-farm employment opportunities for the survival and viability of rural communities. One interesting pattern is that the farmers with more than 25 years of farm experience are relatively more likely to be unemployed than the other age categories (Table 8).

TABLE 8.—YEARS IN FARMING BY WHERE HUSBAND WORKING: NUMBERS AND PERCENTAGES

Years	Local farm	Local agbusiness	Local nonag-business	Out of town	Unemployed	Other	Row totals
Less than 5	3	11	10	3	2	1	30
	(.69)	(2.52)	(2.29)	(.69)	(.46)	(.23)	(6.9)
5 to 9	5	21	22	9	14	2	74
	(1.15)	(4.82)	(5.05)	(2.06)	(3.21)	(.46)	(17.0)
10 to 14	12	21	33	7	10	3	86
	(2.75)	(4.82)	(7.57)	(1.61)	(2.29)	(.69)	(19.7)
15 to 25	18	33	43	20	9	4	127
	(4.13)	(7.57)	(7.86)	(4.59)	(2.06)	(.92)	(29.1)
More than 25	18	25	30	26	20	0	119
	(4.13)	(5.73)	(6.88)	(5.96)	(4.59)	(0.00)	(27.3)
Total	56	111	138	65	55	10	436
	(12.84)	(25.46)	(31.65)	(14.91)	(12.61)	(2.29)	(100.0)

The work status of the wife adds support to the importance of the non-farm employment opportunities in rural areas. Almost 44 percent of these women continue to hold jobs that they had while the couple was in farming (Table 9). An additional 4.7 percent of cases involved a wife who began working after leaving farming. In 35.1 percent of the cases the wife did not work before or after they were involved in farming and in 5.8 percent of the cases the wife no longer works.

TABLE 9.—EMPLOYMENT STATUS OF HUSBAND AND WIFE WHO HAVE LEFT FARMING FOR FINANCIAL REASONS, 1984

	Frequency	Percent of total
Husband's work status:		
Working on local farm	56	12.8
Working in local ag-business	111	25.5
Working locally in non-ag-related job	138	31.7
Unemployed	65	14.9
Other	55	12.6
Working out of town	10	2.3
Wife's work status:		
In same job outside home she had while farming	167	43.7
Not working now and didn't while farming	134	35.1
Not working now and did before	22	5.8
Other	40	10.5
Wife now working, didn't before	18	4.7

Source: Survey of Iowa county extension offices, 1984 to 1985.

Another important issue related to farmers leaving agriculture is the impact on the structure of farm ownership. The information in Table 10 relates to the status of land and facilities following farmers leaving agriculture for financial reasons. In the case of land, the most common response (33 percent of the total reported cases) is that land is being held in inventory by the lender. In many cases this land is being rented back to the original operator. A related category where the operator is keeping control of the land after the farmer has left farming accounts for another 10.2 percent of the cases. In cases where the land has been sold, the most common recipient is a smaller two-man-or-less farm accounting for 16.5 percent of the cases. The land was sold to an operator of a more-than-two-man farm in 4.2 percent of the reported cases and 7.6 percent of the time to investors. Although this question was designed primarily for owner-operators, there was additional information on land that had been rented by farmers. In 14.2 percent of the cases it was reported that the land was now being rented to someone else.

TABLE 10.—DISPOSITION OF LAND AND FACILITIES FOLLOWING BY SAMPLE OF IOWA FARMERS WHO HAVE QUIT FOR FINANCIAL REASONS, 1984

	What happened to land		Facilities	
	Frequency	Percent of total	Frequency	Percent of total
Sold to operator of 2-man or less farm	74	16.5	78	17.6
Sold to operator of more than 2-man farm	19	4.2	13	2.9
Sold to investor	34	7.6	32	7.2
Held in inventory by lender	148	33.0	128	29.0
Other	64	14.3	77	17.4
Rented to other	64	14.2	54	12.2
Operator kept, is still using or rented out	64	10.2	58	13.1
Vacant			2	.5

Source: Survey of Iowa county extension offices, 1984–85.

In a related set of figures, the disposition of farm facilities follow a very similar pattern as the case for land. The most common case again was that the facilities were being held in inventory by the lender (29 percent of the cases). Since these facilities are attached to the land, it is likely that they were included in the sales to the two-man-or-less and two-man-or-larger farm operations. It is an interesting note that the facilities were reported vacant in only two of the cases.

SUMMARY AND CONCLUSIONS

Although the results of this survey indicate that the majority of farmers who have quit farming for financial reasons in 1984 have not yet left their communities in Iowa, there are several reasons for caution. Since there are indications that the farm financial difficulties are a long run problem, the 1984 information may represent an early phase of the farm restructuring process. The economic base of the rural communities may have limited capacity to absorb additional displaced farmers so that further farm financial difficulties would worsen the economic and social problems facing rural communities.

IMPLICATIONS OF FARM CHANGE FOR A FARM STATE *

By Gordon Bultena, Willis Goudy, Eric Hoiberg, Gerald Klonglan, Peter Korsching, Paul Lasley, Frederick Lorenz, Steven Padgitt, Vernon Ryan, Stephen Sapp, John Tait, and Betty Wells **

A renaissance in rural America was declared during the 1970's. Population trends were reversing, with nonmetropolitan areas gaining rather than losing residents. The trends were of such strength that observers were confident that they were documenting something more than a temporary aberration. That may still be the case but, in rural states dominated by agriculture, the 1970's may have been no more than an minor modulation rather than a reversal of longstanding trends. Indeed, in the second half of the 1980's, the earlier trends may be returning—and with a vengeance. One State that may fit this scenario is Iowa.

Residents of Iowa once felt that the State's dominance in agriculture kept it immune from the economic and social unheavals experienced elsewhere. Now talk of dominance in agriculture has changed to discussion of dependence on agriculture with the tone reflecting liabilities rather than assets. The loss of foreign markets, high interest rates, and steep declines in land values are forcing major changes not only in the structure of agriculture itself but also in local communities and social institutions. Indeed, the changes in agriculture and the accompanying ripple effects may be so rapid and so great that Iowa could become the State that the Nation leaves behind.

We wish to note some of the dimensions of the changes occurring in Iowa, the current concerns and constraints operating in the State that are of a sociological nature, some predictions and the possible social consequences of these predictions, and the implications inherent in future choices for the State and the Nation. Our focus is on social aspects of rural change; others in this volume speak more directly to the economic concerns generated by the changing structure of rural America.

SOCIODEMOGRAPHIC CHANGE IN IOWA

Historically, Iowa's population has grown from one decade to the next, although generally at a slower rate than that of the Nation as a whole. For example, Iowa's population grew about 3 percent between 1970 and 1980, while the increase for the Nation topped 11 percent. But from 1981 through 1985, the U.S. Bureau of the Census estimated that Iowa had a net loss of 33,000 residents or slightly more than 1 percent of its nearly three million population. No other state had declines in each of these years. Although Ohio and Michigan lost more individuals from 1981 to 1985 than did Iowa, their rates of loss were lower and they began to gain population again in 1984.

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Iowa's economy is dominated by agriculture. Nonetheless, the State's population has been slowly becoming more urban when the census definition of an urban place (2,500 or more residents) is used. In 1980, 59 percent of Iowa's population was urban. This compares with 57 percent urban in 1970 and 53 percent in 1960. Of the 41 percent of the population classified as rural in 1980, about one-third lived on farms. Of the remaining rural population, about one-fourth lived in open-country settings (but not on farms) and two-fifths lived in incorporated towns with less than 2,500 residents.

Current news reports suggest that the farm population is rapidly declining in Iowa. There is little to suggest otherwise, of course. But this is not a new phenomenon. Fifty years ago, Iowa had about 965,000 farm residents. The number has declined in each succeeding decade—during times of both farm prosperity and recession. Indeed, Iowa, has lost more than 120,000 farm residents in each of the last four decades. During the relatively prosperous 1970's, Iowa lost a quarter of its farm population, resulting in a total of 391,000 in 1980. This change reflects not only fewer farms but smaller families as well.

Farms have decreased in numbers, as losses in the farm population suggest. In 1950, Iowa had about 203,000 farms; by 1982, this had declined by 43 percent to 115,000. Estimates since 1982 suggest that this trend has continued—if not accelerated. But the trend has not been similar across farms of various sizes. Large farms, which increased slowly from 1950 to 1969, have risen dramatically since then. The major decline has been in the so-called family farm of 120 to 360 acres. The very small farms (less than 10 acres) declined from 1950 to 1969 but have increased since then.

The shift in the population from farms was compensated in part by migration to nearby small communities. Iowa is a State of small towns. Indeed, of Iowa's 955 incorporated places, only 124 had at least 2,500 residents. A total of 479 had fewer than 500 inhabitants; this number is greater than that for any other state. During the 1970's, a majority of these towns remained relatively stable in terms of the number of residents. But resource problems exist in many localities; most have lost commercial enterprises over the years. Recent agricultural problems have exacerbated the closing of main-street businesses. Iowa has more than 430 community-based school districts of which some have fewer than 100 students enrolled in high school. In some towns, several churches are active. Of these, each has a sanctuary of sufficient size to seat all local residents.

In communities losing population and their economic bases, the people left behind frequently are elderly and/or of low income. Iowa's percentage of residents 65 or older is exceeded by only three other states of which two serve as retirement havens. But more significant, the average age is over 50 years in some Iowa towns. In these communities, this leaves a relatively small proportion of the population in the peak productive years and very few youth. Obviously, 50 percent of the population over 50 years of age is atypical even in Iowa. But the trend toward an aging Iowa population is evident; it has been brought about both by selective out-migration of younger people as well as lower birth rates.

Recent population projections for the State, although not including adjustments for current economic woes, contain significant implications for Iowa. For example, 65 of Iowa's 99 counties are expected to lose population between 1980 and the year 2000. Iowa is expectd to have 16,000 fewer children under the age of 15 in the year 2000 than it had in 1980. And the number of residents over 65 is projected to increase by more than 46,000 (or 12 percent) from 1980 to 2000.

Questioning Rural Beliefs in Iowa

The demographic changes in Iowa and its local communities are the sum of decisions made by—or forced upon—families and individuals. But the significance of the rural crisis in Iowa is deeper than the current economic turmoil and the threats being posed to the preservation of the family farm. Less evident is the threatened survival of some revered beliefs and values that historically have been the mainspring of rural thinking and action.

Several beliefs have long been an integral part of the orientation of rural—and, for the most part, urban—Iowans. First, of course, is the belief that the "family farm" is the preferred "God-given" system of agricultrual organization and should be vigorously protected in public policy. Futhermore, farm ownership is valued as a badge of personal success and should be a paramount aspiration of tenant operators. Second, Iowa's farm communities are believed to be relatively immune to the boom-and-bust cycles found elsewhere in the economy; that is, they are recession proof. There has been a persistent faith that while most farmers will not attain great wealth, neither are they vulnerable to problems such as unemployment, poverty, and bankruptcy that chronically plague other sectors of the society. Third, expansion of farming operations, improved management, and technological innovation are believed to constitute appropriate solutions to farmers' economic problems rather than reliance on concerted social and political action. Many farmers look to the free market for resolution of their financial difficulties and oppose—at least in theory—government intervention in the marketplace. Fourth, both the continued expansion of the world's population and the nature of developing economies in Third-World countries are believed to ensure virtually insatiable markets for Iowa's farm products.

Some other beliefs can be listed. Fifth, for example, personal and familial pathologies are believed to be concentrated in urban settings where residents are the most subject to fast-paced, stressful environmens. Sixth, energy supplies are believed to be unlimited and can constitute an ever-growing input in farm operations. Seventh, farm residents are believed to enjoy a comparatively pristine and unpolluted physical environment. Eighth, problems that plague the rural sector are believed to be ultimately solvable through application of a "technological fix." Ninth, farmers are believed to have many of the technical skills and work habits that are desired by local industries and thus would ensure their re-employment if they are displaced from agriculture. And, tenth, dedication and hard work are believed to be not only necessary but also sufficient qualities for attaining success.

The farm crisis has called into question many of these and other time-honored beliefs of rural Iowans about themselves—and others about them—and their collective position in the larger society. What seemingly were once enduring truths—anchors for a constructed reality—have recently become suspect and now appear to be widely disputed by Iowa's rural residents themselves. Today, some of these beliefs constitute little more than cruel myths that stand in the way of successful adaptation of Iowa's rural communities and farm families to the economic and social changes that engulf them.

INTERRELATED CHANGES IN IOWA

The farm crisis is often implicated as being the sole source of Iowa's social and economic problems because the immediatae impacts have been in agriculture. Estimates are that somewhere between 10 percent and 20 percent (10,000 to 20,000) of the farms in Iowa will fail in the next two to five years. Some implications of these trends, in addition to fewer farms and a smaller farm population, are a more pronounced dual structure of agriculture and the separation of ownership and farm labor. In reality, there is a multiplicity of long-standing social and ecomomic trends that, when coupled with the farm crisis, are forcing a profound reassessment and likely restructuring of rural life and institutions in the State. These changes include a continuing depopulation of the countryside, erosion of local community autonomy, social and economic stagnation of many small towns, and degradation of soil and water quality.

The results of such changes imply something more than simply a farm crisis, however. There are implications for rural, agriculturally dependent communities; the social relationship among people in these communities; and urban communities in Iowa. The most obvious implication for rural communities is the loss of farm population. Although the 1970's generally were prosperous for farming, the farm population declined by 27 percent during that decade. The current situation suggests even greater losses in farm population. Retail trade will decline accordingly. This strongly affects the viability of small-town merchants and agribusinesses holding unsecured farm accounts and eventually the towns themselves.

Decreasing population suggests that institutions within rural communities must consider consolidation. Historically, as farm population declines, schools and churches are forced to consolidate. We now are seeing further consolidation of machinery dealers and grain handlers as well as trade centers themselves and units of local government within them. All of these represent an institutional decline within agricultural communities. A related impact is the effect on membership and participation in community organizations. Whether in social, civic, business, or commodity organizations, fewer people mean declining memberships. Community relief organizations face increased demand as resources become more scarce.

The impacts on the social fabric that binds rural communities also are evident. The crisis is causing a deterioration in social relationships, even to a polarization of relationships between residents, such as farmers and lenders, landowners and tenants, and neighbors. Business relationships are being severed, communities split, and old social relationships broken. People are becoming divided over such questions as what happened, who is to blame, and what should be done.

Negative attitudes reflect the uncertainty created by the farm crisis and an unwillingness to invest further in the community. Such things as "no" votes on school bond, hospital, or other civic referenda represent some examples of this uncertainty. Other negative social consequences include the loss of opportunity for youth to become independent farmers; enrollments in vocational agriculture and rural youth programs are likely to decline as youngsters redefine farming as an unattractive occupation. For both young and old individuals, the most serious consequence is the uncertainty about one's future. It is difficult to plan one's life when faced with threats of losing one's job, home, and way of life. This uncertainty is creating much family stress, anxiety, and conflict between spouses, between siblings, and between parents and their children. Visible family consequences are marital discord, spouse and child abuse, alcoholism, and drug abuse. The most severe cases are farmers committing suicide or taking the lives of others.

Turning to urban communities, the most visible impacts are worker layoffs in agribusinesses, manufacturing industries related to agriculture, and feed and other agricultural suppliers. High unemployment in these areas reflects the farm financial crisis. Many urban areas have experienced economic adjustments as firms related to agriculture have reduced their labor forces because of sluggish sales. Another impact facing urban communities is displaced farm families migrating to urban areas in search of jobs. This migration creates greater demands on housing, education, and welfare agencies, and represents yet another ripple effect of the crisis in rural areas.

IOWA'S PLIGHT

Several conclusions can be drawn about the forces impacting Iowa that create the conditions commonly referred to as the farm crisis. First, world markets combined with foreign and domestic trade policies have left Iowa's agriculturally-dominated economy vulnerable to decisions where the immediate impact on the State is of secondary concern. This dependence on events and decisions that transcend the State's interests is common in modern societies. Seldom, if ever, in the history of the United States has the agricultural sector witnessed such fundamental changes in its economic and political environment, however.

The second conclusion pertains to the noneconomic disruptions that have taken place as a result of Iowa's unstable economy. Due to the economic conditions of families and local communities, a breakdown in Iowa's social fabric is readily apparent. Coming out of the tradition of family farming units and small, service-oriented communities, people in Iowa rely heavily on intimate associations both within their families as well as with friends and neighbors. Because of the economic situation, however, these social relations have been compromised to the point where disorganization and, on occasion, desolation occurs within families, among neighbors, and across communities.

The third conclusion has to do with Iowa's ability, or inability to respond to the external conditions that are threatening the State's socioeconomic structure. Leadership plays a critical role facing a crisis situation. In Iowa's situation, political leadership at all levels—local, State, and National—is closely tied to agricultural interests. While this is understandable for times when agriculture dominates, there is some question as to whether this type of leadership structure is suited for a future that will require greater diversification of Iowa's economy. No doubt, a political system that encourages representation across diverse interests and groups would be preferable to a system that has been dominated by agricultural interests. In effect, what the State needs is greater representation and leadership that encourages policies that transcend agricultural interests.

These three conclusions reflect the current plight of the State. Economic conditions beyond its control are leading to serious breakdowns in the social fabric that jeopardizes the social relations within families and among residents. Leadership within the State has not responded to the changing environment because of its traditional agricultural orientation. Policies are necessary at both the State and National levels to respond to these unwelcome conditions.

As a general statement, we should recognize that although economic circumstances are the major contributor to Iowa's recent plight, economic policies by themselves will not ameliorate the situation. Attention also must be given to policies that alter Iowa's social environment, not necessarily to its level before the farm crisis, but a level where quality of life is restored. We suggest that some guidelines that reflect the social as well as the economic dimensions of future policies are necessary.

Iowa and Federal Policy

As the United States continued to modernize, we saw an increasing centralization of power to the point where major functions were carried out at the Federal level. Now, for a variety of economic and ideological reasons, the trend is toward a "downsized" Federal government where greater responsibility is to go to State and local levels of government. This transfer of functions has not been timely for Iowa where the economic plight of agriculture is draining the limits of State government. Also, local levels of government that have been devastated by declining land values, business foreclosures and bankruptcies, and a steadily shrinking labor force may be incapable of providing services and facilities formerly funded through Federal assistance. The pending loss of revenue sharing funds is a prime example where local governmental units have come to rely on Federal support only to be threatened by major reductions. For Iowa, these Federal reductions could not come at a worse time.

It is our belief that Federal policies should not ignore the economic plight of states such as Iowa. Ideological differences aside, if downsizing at the Federal level is an inevitable outcome, the transition from Federal to State and local levels should be made at a pace that allows the lower levels of government to adapt to their growing responsibilities. Indeed, the structure of government needs to conform to its basic functions and sudden withdrawal at the Federal level is both impractical and unjust to regions such as Iowa that are facing an economic crisis of their own.

At the minimum, Federal policies should concern themselves with the consequences of decentralization. Can equity be guaranteed across states and individuals with less Federal government? How long will it take lower levels of government to adapt to the declining role of Federal government? What can the Federal government do to make this transition as smooth as possible? When these issues are neglected, the Federal government is contributing to the present economic and social disparity among states through a laissez-faire doctrine that ignores the present conditions in agriculturally-dominated states such as Iowa.

STATE POLICY IN IOWA

Partially as a result of decisions made at the Federal level, Iowa's State government has been placed in a reactive instead of the preferred proactive mode of policymaking. The situation is exasperated even further by the declining State revenue resulting from the farm crisis. In effect, it finds itself in the position where more is expected from State government but less revenue is available to deal with the situation. This paradox has led State government to follow the pattern of the Federal government where downsizing and program reductions are underway.

Economic rationale on a short-run basis on doubt supports the actions of the State government. Yet the consequence is that neither the Federal nor the State level of government is providing the leadership needed to reverse the economic and social conditions of local areas. Lack of leadership obviously results in the absence of a strategy or plan to reverse the present situation. This leaves the State without direction and little hope for the future. Fatalistic attitudes eventually take precedence to the point where traditional values are questioned and existing social relations deteriorate.

In summary, Iowa needs a development strategy at the State level, if for no other reason, to restore hope for the future among residents. Leadership must come forth to propose and evaluate alternative strategies. The chosen strategy could then serve as a rallying point around which Iowa could invest its resources and offer encouragement to its residents. The bulk of the responsibility for this action must be at the level of the State government.

IOWA'S SOCIAL FABRIC

In addition to governmental policy, social conditions also can be altered if residents themselves make a critical examination of their social surroundings in hopes of altering conditions that prove dysfunctional. For example, the values of a traditional rural Iowa should be scrutinized and adapted to comply with today's highly complex society. It is unlikely that the change will occur in the other direction. Although compatible with earlier circumstances, values that neglect the interdependence of agriculture and rural communities with the outside world are appropriate no longer. International markets and trade policies are conditions that will continue to influence the returns from Iowa's agricultural products. Along the same lines, traditional values of "individualism" that encourage ownership and self-destiny need to be modified somewhat to include the importance of conserving natural resources for the benefit of later generations. In effect, it means giving more attention to "we" and less to "me" in rural society.

Social relations also need to reflect changes in values. The farm crisis that exists today is impairing relations at virtually all levels. These relations should be re-aligned so that unwarranted hostilities directed at others are replaced with more supportive relations that offer encouragement in time of personal and family stress. Again, it is a matter of relying on values that consider problems and solutions associated with the farm crisis on a collective rather than a personal level.

ALTERNATIVES FOR IOWA

Three alternative strategies face Iowa and its sagging economy: do nothing; intensify response behaviors that have worked in the past; or assess emergent situations, re-value the State's assets, inventory resources, and modify existing challenges into opportunities. The first course of action—doing nothing—would reflect either the belief that the current doldrums are a temporary aberration in a steady and permanent course of economic growth or a fatalistic belief that we are powerless to do anything.

The second response—reacting with time-tested solutions—is a strategy of crisis management. "Reaction" is a very human response but one doomed to failure if, as we believe, the changes pummeling us are not temporary and are substantially modifying the social and economic environment. Still, people will strive to return to the "good old days" which often entailed living beyond our means. This tendency to look to past solutions is rooted in a tenacious faith that "economic growth" is the "normal" state of affairs.

The third course—making fundamental adjustments—is not without danger and difficulty. One danger lies in the appeal of the "technological fix" which is the uncritical belief that biotechnology or some other technological breakthrough will permit a retention of established life styles. Although technological alternatives must be aggressively pursued, Iowa can ill afford to put all of its hopes into the "high-tech" gamble. Despite the promise of high-tech solutions, the competition is stiff, investment costs are high, and payoffs are uncertain. High tech equates with high risk, although avoiding risk in difficult times smacks of a "do nothing" strategy. The risks of change—including potential payoffs—are greatest for those whom sociologists call the "early adopters." Like a pyramid scheme, States late in joining the bandwagon may not attain the promised returns. Technolgical change may offer hope of reviving Iowa's economy but it may also carry in its wake important adverse socioeconomic impacts of which the ramifications may be not always positive.

A less popular option is for Iowans to accept that our period of exuberance is over. We have benefitted from relatively unique historical conditions that have shaped our world view. We must now begin to live within our means. We must understand our niche in a global system and adjust and refine it as necessary. We must appreciate our material and biological dependencies. Our institutions, beliefs, and values must reflect this new reality. Policy choices and efforts at reorganization must be proactive rather than reactive. Acceptance allows us to make rational assessments of our values and beliefs and to plan more effectively for the future.

A Changing Iowa

Despite declining value, Iowa's rich farmland will continue to be a basic asset. We must conserve and protect it and restore its productive value. The land must once again produce wealth. A sensible strategy that is already on the public agenda is crop diversification. We also are endowed with abundant rainfall and groundwater although the quality of the latter is increasingly a source of alarm. We must protect our groundwater lest a past asset become a debilitating liability.

Iowa has an educated, hardworking population. But this asset already is being eroded. Many of our young people now search elsewhere for employment. This trend likely will accelerate. The state's population is aging and further decreasing its future attractiveness to industry. The longstanding public support for education seems to be weakening. These and other trends portend continuing adjustment problems for Iowa and especially for rural sectors of the State.

Social systems typically do not undergo significant changes unless there are serious challenges to the status quo. These systems continuously make minor internal adjustments; but fundamental, paradigmatic changes in basic reliefs, values, and institutions tend to be resisted and generally are forthcoming only when the system is confronted with new unrelenting realities. The resulting change often is revolutionary in that it substantially alters or even completely restructures the previous model that shaped behavior with the system.

The current farm crisis marks a critical juncture in Iowa. Many established thoughtways are being re-examined and sometimes discarded. Just as the Great Depression left an indelible mark on the attitudes of many older Americans, the farm crisis may be precipating profound shifts in the views and aspirations of today's farm families.

The argument can be made that Iowans now are reappraising such long-espoused beliefs as the capacity of foreign markets to absorb surplus food production and thereby ensure farm prosperity, the merits of assuming large debts to finance expansion plans, the virtues of owning (versus renting) farmland, the necessity of making innovative adoptions for survival, and the utility of risk-taking and optimizing (versus sufficing) farm management strategies. The potential of relinquishing these and other longstanding thought patterns portends profound, but as yet poorly understood, implications of the farm crisis for the future structure, dynamics, and social fabric of Iowa's rural communities.

IMPACT OF THE FARM FINANCIAL CRISIS ON AGRIBUSINESS FIRMS AND RURAL COMMUNITIES

By Roger G. Ginder, Kenneth E. Stone, and Daniel Otto *

The high real interest rates and low commodity prices since the early 1980's have created financial problems for many farmers, especially those in highly leveraged positions. Surveys of farmers in the United States and Iowa have indicated that as many as 30 percent of farm operators in the U.S. have debt-to-asset ratios greater than 70 percent. Several farm simulation studies suggest that farmers in this greater than 70 percent debt-to-asset category are likely to become insolvent within two to three years if economic conditions and commodity prices do not improve significantly [7][10]. Farm asset values have been falling in response to these conditions in agriculture.

While farmers are bearing the brunt of the financial difficulties in agriculture, the current crisis has implications for other sectors in the rural economy that interact with the farm economy. The viability of agribusinesses which supply production inputs and marketing services to farmers, the main street merchants who provide consumer and retail services, and the other social institutions such as schools and churches, is directly related to the financial health and number of farmers operating in rural areas.

Reductions in rural disposable income are part of the problem, but rural wealth and demographics also play a role. Reductions in farm asset values affect both solvent and insolvent farmers alike. Such reductions in rural wealth spread rapidly through the local economy affecting input purchases and consumption patterns. Between 1980 and 1984, the State's planning office estimates that 69 of Iowa's 99 counties have experienced population declines, mostly in the rural agriculturally dependent areas. This chapter investigates the implications of the farm financial crisis for rural communities with attention focused on the agribusinesses, main street businesses, and the various community institutions in agricultural communities. Data for this chapter are drawn primarily from the authors' prior research. Some is regional in scope and some of it focused only on Iowa.

AGRIBUSINESS FIRMS

The farm debt situation is already creating and will continue to create negative impacts on agribusiness firms—particularly those supplying inputs and marketing services at the local level. Some of those impacts will be direct and others indirect. Both have the po-

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tential to cause serious financial stress and disruption in the farm input and marketing industry.

Direct Effects

The direct effects of farm liquidity and solvency problems will materialize in three forms: uncollectable convenience trade credit, losses through third party security interests under Article 9 of the Uniform Commercial Code (UCC), and more integrated ownership of crops and livestock.

Ginder, in a study of 665 firms located in 11 upper midwest corn belt states, has shown that the exposure of local agribusiness supply and marketing cooperatives to bad accounts receivable is high [1]. Exposure to liquidity and solvency problems (due to receivables) is closely related to the debt-to-asset ratio of the local agribusiness firm itself. Data in Table 1 show noncurrent accounts receivable equivalent to 1 to 2 percent of sales exist in all categories. Data in Table 2 indicate that a writedown of receivables equivalent to 1 percent of sales would create liquidity, solvency, and debt service problems in firms with debt-to-asset ratios of 70 percent and over. Writedowns of 2 or 3 percent of sales would have serious adverse effects on the financial position of the firms with debt to asset ratios in the 40 percent to 70 percent category.

TABLE 1.—AGED ACCOUNTS RECEIVABLE FOR EIGHTH FARM CREDIT DISTRICT AGRIBUSINESS AS A PERCENT OF SALES AND GROSS MARGINS

Debt-to-asset category	Accounts receivable as a percent of sales			Accounts receivable as a percent of gross margins		
	Accounts 60 to 180 days old	Accounts over 180 days old	Accounts over 60 days old	Accounts 60 to 180 days old	Accounts over 180 days old	Accounts over 60 days old
10 to 40	1.0	0.7	1.7	8.1	6.3	15.0
40 to 70	.8	.7	1.5	7.1	6.2	13.3
70 plus	.9	1.2	2.1	7.3	9.3	16.6

TABLE 2.—PROJECTED WORKING CAPITAL, DEBT-TO-EQUITY, AND DEBT SERVICE POSITION OF LOCAL AGRIBUSINESS FIRMS IN EIGHTH FARM CREDIT DISTRICT AT SELECTED LEVELS OF ACCOUNTS RECEIVABLE WRITE-OFF

Projected accounts receivable write-down as a percent of sales	Average working capital stocks (thousands)			Average debt-local equity ratio			Average debt service ratio [2]		
	Debt asset category			Debt asset category			Debt asset category		
	10 to 40	40 to 70	70 plus	10 to 40	40 to 70	70 plus	10 to 40	40 to 70	70 plus
Current value	$714	$481	$90	.15	.40	[1] NA	3.7	0.78	0.1
.01 writedown	629	359	−41	.17		[1] NA	2.6	.4	−.4
.02 writedown	544	237	−172	.18	.50	[1] NA	1.5	−.1	−.6
.03 writedown	459	115	−304	.19	.60	[1] NA	.4	−.4	−.9
.04 writedown	374	−7	−435	.21	.87	[1] NA	−.7	−.8	−1.4
Sample N	69	129	50	59	124	[1] NA	58	124	46

[1] Very large positive values for this ratio occur in the neighborhood of zero equity. Hence, the mean is unreliable as a measure and is not reported.

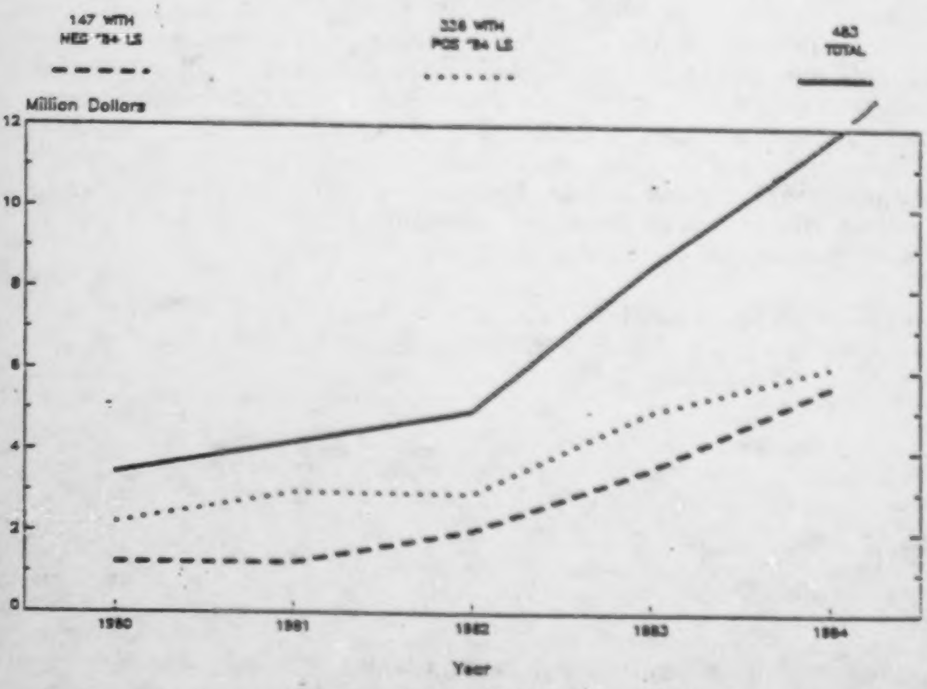
[2] The debt service ratio measures cash flow from depreciation and earnings. It is calculated: Earnings + depreciation/long term debt.

Actual losses in the Eighth Farm Credit District are shown in Figure 1 for the five-year period of 1980 to 1984. Losses increased four-fold over the five year period. Although the average loss per firm remained at slightly less than 1 percent of sales at the end of 1984, the distribution of losses was not evenly spread over all firms in the district. Furthermore, the Eighth Farm Credit District firms still held noncurrent receivables over 180 days old equivalent to 0.8 percent of sales and noncurrent receivables over 60 days old equivalent to 0.9 percent of sales after recognizing the 1984 losses.

Figure 1.

GRAIN AND FARM SUPPLY COOPERATIVES

Bad Debt Write-Offs (Total Dollars) *



* As of 1/31/86

Agribusiness firms involved in marketing grain and livestock (in most States) face another direct effect from Uniform Commercial Code Article 9 actions in farm bankruptcies. UCC Article 9 provides that purchasers of agricultural products from a *farmer* do not take those products free of prior perfected security interests. Should the farmer default on loans held by lenders with a prior perfected security interest, the purchasing agribusiness firm may be liable to the holder of the security interest for the value of products purchased [6]. Actions under Article 9 have occurred in most Midwestern States during the past five years. While losses thus far have been less than accounts receivable losses, a 2 to 5 year statute of limitations exists in most States. Hence, past purchases of grain from producers who are now in default may represent a hidden liability for these firms [5].

A final direct effect on agribusiness firms is the inability of an increasing number of farmers to get operating credit for the variable production inputs. Ginder has hypothesized that a reduction in operating credit available to leveraged producers, from traditional lenders will lead to increasing integration into production agriculture by large agribusiness firms [2][3]. Feeder livestock and production inputs may be provided from outside sources who retain title to those inputs thereby avoiding the risks associated with direct lending to the producer. Instead, production contracts where the farmer provides the labor and fixed assets would be employed. Such production contracts where inputs are supplied will require more capital than smaller locally-based agribusiness firms can easily obtain. Hence, a rapid reduction in business volume may be sustained, by smaller firms, accompanied by an increase in unit cost and a loss of competitive position.

Indirect Effects

The current agricultural debt situation will also have indirect effects on local agribusiness firms in rural areas. Excess capacity in the farm input distribution and grain marketing industry coupled with the direct effects of uncollectible accounts and UCC Article 9 losses have already resulted in a greater number of local agribusiness liquidations. Fixed asset liquidations have predictably occurred at less than either replacement costs or depreciated book value.

In the environment of imperfect competition prevailing in the local agricultural input and marketing industry acquisition of high quality fixed assets at 30 to 50 percent of undepreciated book value is a serious threat to surrounding firms. Using financial simulation, techniques Ginder has demonstrated that, under excess capacity, an existing input-supply marketing firm cannot survive over a five-year period if the fixed assets of an identical nearby firm are purchased by a competitor at 55 percent of undepreciated book value [4].

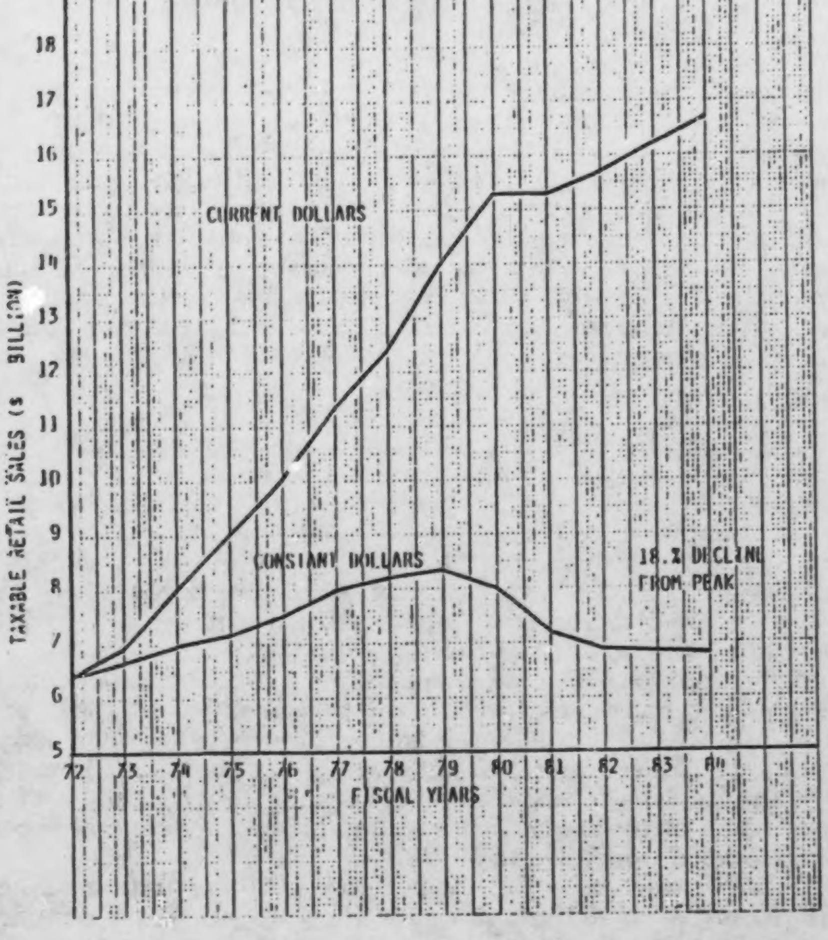
Local agribusiness firms may also be indirectly affected by the stress farm loan losses place on lending institutions. Rural commercial banks and the Farm Credit System provide debt financing for local agribusiness firms and cooperatives as well as producers. Increased stress or failure and liquidation of these institutions have the potential to create debt financing problems for local input supply and marketing firms.

RETAIL AND SERVICE SECTOR IMPACTS

The farm financial crisis has been the primary factor in causing an 18 percent decrease in Iowa's real retail and service sales from 1979 to 1984. Figure 2 illustrates the impact of the farm economy on the Iowa general economy. During the farm "boom" of the 1970's, Iowa's retail sales were quite robust, showing no indication of the severe 1973 to 1975 general recession and leading many residents to declare that Iowa was "recession proof." However, beginning in 1979 to 1980, the combination of a general recession and an agricultural recession caused a dramatic decline in real retail sales. Since more than half the State's industrial firms are agriculturally related, the State's total economy is directly related to the status of the farming sector. The farm machinery and construction industries have been especially hard hit with employment declines in the U.S. of 45 and 50 percent, respectively, between 1972 and 1984. With 17 percent of the U.S. farm machinery industry, Iowa has been more severely effected by this sector's downturn than have other States.

Figure 2.

TAXABLE RETAIL SALES FOR
STATE OF IOWA, 1972-1984
(ESTIMATED AMOUNTS FOR EXEMPTED
FOOD AND DRUGS ADDED IN SINCE 1974)



Iowa has not yet felt a recovery from the 1980 to 1982 general recession, even though the Nation as a whole has experienced approximately three years of strong recovery. In fact, 61 of 99 counties experienced retail sales losses averaging $2.2 million in 1984 compared to 1983. This compares to 22 counties suffering losses from 1982 to 1983. Thirteen counties in the most distressed areas have experienced two consecutives years of retail sales decreases.

Based on the average sales per retail outlet, Stone has estimated that approximately 5,000 Iowa retail and service firms have been forced out of business in the last four years because of the decrease in sales caused by the farm recession [12]. Two recent surveys of Iowa counties suggest that this may be a conservative estimate.

Yet, amazingly the total number of State retail sales tax permits has increased by 500 to 700 per year in each of the last four years. Further study indicates much of this increase has come in the area of small service businesses and speciality firms such as craft shops. Based on field contact by Extension specialists, it can be concluded that many people needing extra income, because of the impact of the farm financial crisis, have started their own businesses, oftentimes in their homes.

Retail Sales Migration

In a study for the 1980 White House Conference on Small Business, Stone documented trends in outmigration of retail shoppers from rural counties in Iowa, Kansas, Missouri, and Nebraska [11]. In an examination of 256 rural counties, it was found that as recently as 1958, the average net "leakage" of retail sales was only 4 percent per year. By 1977, the average leakage of retail sales from rural counties had increased to nearly 15 percent per year, while metropolitan counties enjoyed corresponding gains.

In a 1985 study of 675 Iowa towns, Stone looked at the effects of farm booms and recessions on the retail sectors of various size communities [12]. He found that retail trade in towns below 1,000 population had been declining in the years prior to 1972. However, many of these towns received a new lease on life with the onset of the farm boom of the early 1970's and gained an average of 9 percent in real sales from 1972 to 1976.

In most cases, real sales for towns below 1,000 population peaked in 1976. From 1976 to 1984, sales for these towns again resumed their downward trend, dropping an average of 28 percent. In particular, 1984 was a bad year with the average town losing over 12 percent of its real sales compared to 1983.

Many of the larger towns had been experiencing growth in retail sales in the years prior to the farm boom, evidently picking up the leakages from the smaller towns. The sales in these larger towns remained relatively static, however, during the 1972 to 1976 boom period. Most towns above 8,000 population experienced real gains of 2 percent in retail sales from 1983 to 1984. Des Moines, the capital city, enjoyed a real gain of 8 percent or approximately $100 million in retail sales in 1984 compared to 1983.

A similar picture emerges when comparing the percent of total state sales that are accounted for by different size towns. Table 3 presents data taken from *Iowa Retail Sales and Use Tax Reports* and also shows that small towns benefitted from the farm boom, but suffered during the post-boom period.

TABLE 3.—COMPARISON OF TOWN RETAIL SALES AS A PERCENT OF STATE TOTALS

Town size	Percent of total retail sales in fiscal year				Percent change 1972-76	Percent change 1976-84
	n	1972	1976	1984		
50,000 plus	6	37.40	36.4	40.42	−2.6	10.9
25,000 to 50,000	7	13.98	12.99	12.12	−12.1	−6.7
10,000 to 25,000	16	6.79	6.80	7.82	.1	15.0
5,000 to 10,000	31	12.76	12.66	13.07	−0.8	3.2
2,500 to 5,000	36	8.35	8.35	8.28	.0	−.8
1,000 to 2,500	150	9.01	9.23	8.01	2.4	−13.2
500 to 1,000	161	4.85	5.28	3.51	8.9	−33.6
Less than 500	250	3.03	3.03	2.12	.0	−29.7
Rural businesses	N/A	.36	.86	.18	138.9	−79.1

Source: Iowa retail sales and use tax reports.

The Future of Retail Sales

Currently, there are countervailing forces working in the State of Iowa. Farmers are continuing their outmigration from rural areas, thereby, diminishing the economic base for small towns. At the same time, intense efforts are being made by state and local officials to attract diversified industry through regional development. If the latter efforts are successful, it is possible that the economic bases of many small towns may be restored, thereby providing better opportunities for citizens. If these efforts are not successful, the future indeed looks bleak for small towns in Iowa and other midwestern states.

COMMUNITY IMPACTS

While agribusinesses and input suppliers are concerned mostly with the volume of production and margins in agriculture, rural communities and main street merchants are also interested in the demographic effects of changes in agriculture in terms of the number and composition of farmers producing a given volume of output. The demographic impacts from the financial crisis are important to rural communities because population levels are a major determinant of retail sales in rural communities and an important factor affecting the viability of rural institutions such as schools, churches, and other community organizations. These relationships suggest that understanding the level of displacements from agriculture caused by the farm financial crisis is important for identifying major impacts in rural areas.

In an effort to identify major indirect impacts of the farm crisis on rural communities, a survey was conducted in the winter of 1984-1985. A reporting technique was used where county Extension directors in 51 of Iowa's 99 counties provided information on the characteristics of 482 farmers who had left agriculture for financial reasons during 1984. While the data collection technique does not allow generalizing statewide, the sample size does provide information on causes of financial difficulties, means of exiting, and location choices from a large set of farmers that left agriculture in 1984 [9].

The survey results indicate that, at least in the short run, the majority of farmers who have quit for financial reasons are staying close to home. Only 13 percent were reported to have left the state while an additional 10 percent have left their county but are still in Iowa. This result is similar to earlier findings by Kaldor and Edwards which indicated that the majority of people leaving farming during the 1960's also chose to remain close to their home community [8]. Over a 10-year span, only 18 percent of operators who left farming had moved out-of-State and 64 percent of the remaining group of dislocated farmers from 1960 were still living within 20 miles of their original farm. The 1984 survey also reported that only 15 percent of these farmers were unemployed, suggesting that the rural economy has thus far been able to absorb many of the displaced farmers either through existing jobs or through the creation of new jobs.

Although rural areas have been adjusting to declining farm numbers for some time, the number of farm failures, the involuntary nature of many of these failures, the depressed asset markets' and the continued recession in rural areas make the current situation more threatening for rural communities. These survey results on farmers leaving agriculture suggest that while rural areas have been losing people, the loss is not as dramatic as might be suggested by the numbers in financial difficulties. Up to this point, major disruptions of rural communities have been averted because of off-farm employment opportunities for farm families.

At this stage of the adjustment process, it is difficult to project major community decimations and disruptions from the farm financial crisis based on currently available data. The combination of low commodity prices, high interest rates, and financial difficulties have created a great deal of concern and an uncertain future for many farmers and communities. These uncertainties can result in postponed purchases and lack of investments in community activities.

Results from this survey should be viewed as short run since they reflect only the 1984 farm displacements while additional sales, foreclosures, and bankruptcies are anticipated in 1985 and beyond as the underlying financial stress conditions are expected to continue. The specialized economic base with limited employment opportunities in most agricultural areas suggest that the disposition of successive rounds of farm insolvencies could be different as a higher percentage of these farmers would be forced to leave their communities. The lags in data reporting and the adjustment lags by individuals suggest there is potential for additional difficulties in the future.

An acceleration of these trends implies more population losses, further decline and migration of retail sales, more difficulties for agribusiness firms and banks, declines in school enrollments and disruption of other community organizations and institutions. The lack of a diversified economic base and job growth in many rural areas will limit the capacity of these rural communities to absorb additional displaced farmers. The loss of farm families from rural areas would translate into additional job and population losses in the service and retail sectors.

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UNDERSTANDING THE SYNERGISTIC LINK BETWEEN RURAL COMMUNITIES AND FARMING *

By Ron Shaffer, Priscilla Salant, and William Saupe **

The influence of changes in rural communities on farming has not received as much attention by researchers and policy makers as the reverse relationship. Congressman De La Garza, Chair of the U.S. House of Representatives Committee on Agriculture, recognized this gap in our understanding in his introduction to the recent House Agriculture Committee report:

> There is today a great and serious gap in the information which Congress and policy makers in other areas need to make intelligent decisions about issues involving the future of the nation's agricultural communities. We have a great deal of up to date and detailed information about the industry of agriculture. But we have much too little information about what is happening in the communities in which our farm families live, and what developments in those areas mean to the people there and to the rest of the nation (U.S. House of Representatives, 1983:5).

Our purpose of this chapter is to examine interdependence between the rural economy and farming. [1] Although we recognize the relationship is two directional and synergistic, the major focus will be the influence of changes in the economies of rural communities on farming.

Even though the farming economy has grown according to many forms of measurement, it no longer dominates rural or nonmetropolitan America (Table 1). Rural communities are rapidly supplementing farming with nonfarm activities. [2] In nonmetropolitan Wisconsin counties between 1970 and 1983, farm proprietor income declined from 12.3 percent (1973) to 7.8 percent (1982) of total personal income (Bureau of Economic Analysis, 1983). With this relative decline, the increased linkage between farming and nonfarm sectors for both inputs and markets becomes crucial to policy makers.

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[1] For our purposes, farming refers to the production of crops and livestock, while agriculture also includes farm input supply and marketing farms in the food and fiber production and distribution chain.

[2] See Glen Pulver, "Economic Growth in Rural America" this report.

TABLE 1.—FARM AND NONFARM INCOME: SELECTED YEARS, UNITED STATES

Year	Farm labor and proprietor income		Off-farm income to total farm family income [3] (percent)
	Millions of current dollars	Percent of total personal income [1]	
1965	$17,558	3.3	49.7
1970	18,131	2.3	55.0
1971	18,848	2.2	56.0
1972	22,577	2.4	52.2
1973	37,430	3.5	41.8
1974	31,709	2.7	50.7
1975	31,051	2.5	48.3
1976	27,287	2.0	57.0
1977	27,882	2.1	56.9
1978	34,705	2.0	51.8
1979	39,675	2.1	52.1
1980	28,741	1.5	63.9
1981	38,792	1.6	56.3
1982	32,175	1.2	63.8
1983	25,740	.9	71.8

[1] Totalpersonal income is total labor and proprietor income, dividends, interest, rent, and transfer income less contributions to Social Security.
[2] Total family income is net income from farming plus off-farm income.

Source: Department of Commerce, Survey of Current Business, August, selected years. ERS, Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1983. USDA, ECIFS 3-3, Sept., 1984,p. 75.

Welfare theory, export base theory and central place theory provide some insight about the influence of changes in rural economies on farming, and will be briefly reviewed prior to our exploration of linkages between rural economies and the farm sector. Specific linkages include nonfarm jobs and nonexport activities. Some of the linkages have been documented empirically; others remain only hypotheses.

THEORETICAL CONSTRUCTS EXPLAINING INTERACTION

Three major theoretical constructs important to this analysis and welfare theory, export base theory, and central place theory. None provides all the insights desired, but each emphasize important relationships and their influences

Welfare Theory

The current concern about the demise of the family farm and the economic hardships of smaller and medium sized farms is in part stimulated by the distributional consequences of the benefits and burdens of the current economic malaise in farming. For example, interest rates are determined outside the farming sector. However, the burden of historically high and fluctuating interest rates falls disproportionately on the 19 percent of all farm operators that owe two-thirds of total debt (Melichar, 1984).

The issue of prime concern is how changes in the national economy, the total local economy and the farming economy affects different groups in rural communities. Income distribution theory provides some insight to the income changes experienced by these specific groups. The application of welfare and income distribution theory appears in recent studies of Third World development as typified by Fields (1980, Ch. 2).

Economics can answer in an objective fashion the questions of maximizing efficiency as long as the original distribution of income or resource ownership is given. But if the distribution of income or resource ownership is not given (or acceptable) then decisions regarding market efficiency are altered (Just *et al.*, 1982:11). Generally, economists argue that the distributional questions are political decisions and all economic theory can do is outline the alternatives and their implications.

Export Base Theory

Export base theory also helps understand the linkage between rural economies and farming. In its original form, the theory contends the economic vitality of a community depended on its capacity to produce goods that were sold to external markets. Historically, export activity in rural communities consisted of farming and some manufacturing. Farming, beyond a doubt, meets the criteria of being an export sector business in rural communities. It typically ships its product beyond the boundaries of the community and is a source of external income whether through direct sales, sales to other local firms who in turn feed or process the commodity, or through federal farm commodity program payments.

Current interpretations of export base theory suggest the export base of a community is any economic activity bringing income into the community, thus freeing the theory from the limiting idea that a physical good must cross the community boundary to be an export. This new interpretation of export base theory not only recongizes the more traditional forms of export but incorproates service-oriented export activities, including the receipt of Social Security benefits and other income transfers received by community residents, as well as recreation, health care, telecommunications, engineering, and many others. These services are supplied not only in urban areas but rural communities as well (Smith, 1984).

Export base theory suggests local economic growth occurs only through the stimulus of changes in the export sector. This ignores changes in the export sector stimulated by independent changes in non-export sector activities. Consider, for example, how changes in commodity transportation rates, and the availability of storage facilities affect the profitability of local farming. A strict interpretation of export base theory contends that community well-being could not be improved by altering the nonexport sector first. In fact, one of the major ways changes in rural economies affects farming is through changes in what are commonly perceived as "support activities."

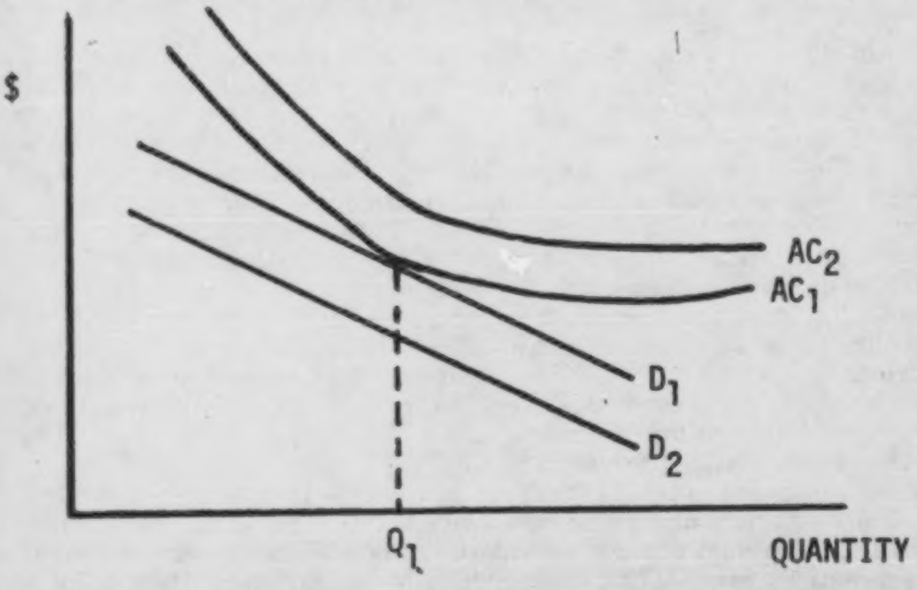
Central Place Theory

The third theoretical construct providing insight into the relationship between the rural economy and farming is central place theory. This theory suggests community trade and service activities depend on the distance people will travel to purchase a good or service, the costs of providing that good or service, and the size of the market needed to earn minimum profits.

Figure 1 shows the relationship between an individual firm's average cost of providing various quantities of a good or service (AC_1) and market demand (D_1). The point of tangency of the average revenue and average cost curves is the demand threshold (Q_1). The demand threshold is the minimal market required for a firm to provide a product and still earn a normal profit.

The most common application of central place theory to the issue of farming and rural economies concerns population change. In Figure 1, demand curve D_2 represents a population decline. Since the firm's average costs have not changed, the firm can no longer operate profitably. The firm either needs a larger market (repopulation) or its competitors must exit to make the site profitable. Alternatively, per capita income can increase to permit this site to continue to be a profitable location.

FIGURE 1.—Determining the availability of trade and service items



Central place theory partially explains why some businesses in rural communities have closed or moved elsewhere. The decline in the number of farms reduced the demand for many farm input supply firms. Likewise, the declining rural population reduced the demand for consumer goods and services. The recent rural population turnaround observed in some areas, coupled with increases in nonfarm income of both farm and nonfarm persons, shifts the demand curve in Figure 1 back to the right (or at least halts its leftward shift). Thus, the turnaround permits rural communities to maintain or even enlarge the number of input suppliers and/or consumer businesses.

In addition to population change, central place theory also demonstrates the effects of changes in the cost of providing selected goods and services. Such changes alter the market required to support many activities (shift in average cost curve to AC_2 in Figure

1). Increased costs in a stable or declining market reduce the number of establishments in nearby communities, a decline which causes farm families to travel farther to purchase consumer items or farm inputs, or to do without. Alternatively, the cost of providing some consumer goods may decline, and thus increase rural availability (Chase, 1980).

RURAL ECONOMIC INFLUENCES ON FARMING

The preceding review of economic theory provides a start in itemizing the types of influences radiating from rural communities to farming. These influences may be broad and far-reaching (e.g., transportation deregulation) or specific (e.g., the closing of a local implement dealer). In the following section, we offer a series of hypothesized influences and attempt to demonstrate either their magnitude or direction of influence with national and Wisconsin data.

Consumer Goods and Services

Traditionally, rural communities affected farming via their role as trading centers for the surrounding farms. These communities evolved to provide marketing links or input supplies for a multitude of smaller, family-oriented farms. Only partially stimulated by the decline in the farm population, rural merchants through the 1960's demonstrated a general decline in numbers, product selection, etc (Chase, 1980; Johnson, 1982). That trend appears to have slowed and even reversed in many rural areas, although the decline of farm population continues. The reversal of the long term depopulation of rural areas that became evident in the early 1970's appears to be continuing in the 1980's, but at a slower rate (U.S. Bureau of Census, 1984). One cause for the reversal was the appearance of nonfarm wage and salary jobs in nonmetropolitan counties (Sofranko and Williams, 1980:47–52).

This repopulation has several implications for farming. First, it means increased markets for local merchants permitting continued local provision of numerous consumer goods. Second, it can lead to conflicts between farmers and nonfarm residents concerning farming practices (e.g., odors, dust, hours of operation) to which land use regulations and right to farm legislation are one response. Third, repopulation may necessitate more or improved public services (e.g., school expansion and increased road maintenance and construction). To the extent these services are financed by property taxes on farms and have limited direct benefits for farm families, the welfare of the farm families is reduced.

In his study of the level of retail services in U.S. nonmetro counties, Johnson (1982) notes that many retail stores disappeared because of population declines and increased sophistication and mobility among the remaining population. Retail sales, however, increased regardless of the direction of population change, a phenomenon Johnson attributed to increased income. Johnson found that population gains and income growth were very important forces in retail sales growth. The results of Johnson's analysis are consistent with central place theory. Population declines lead to a decline in retail stores, but income growth offset some of that decline.

The loss of local retail establishments affects farm and other nonmetro families in similar ways. They both have reduced access to the service, or they use relatively more of their income for travel costs instead of purchasing the goods. If rising levels of nonfarm income contribute to either higher or less volatile total household income for farm persons, demand for retail services may remain high enough to permit continued local operation of some retail establishments.

Wisconsin data for 1971 and 1981 do not consistently indicate the same changes found in Johnson's analysis. Among food stores, the number of establishments in nonmetro areas declined, while the number of employees per establishment increased (U.S. Bureau of Census, 1973 and 1983). Such a trend implies a broader product selection (i.e., larger establishments). Among other types of consumer goods and services however, in nonmetro counties the number of establishemnts increased. For example, the number of apparel stores increased by 51 percent, personal service establishments by 14 percent, and medical services by 61 percent. Each of these relative increases exceeded changes in metro areas and suggests improved local access to consumer businesses.

Farm Inputs

Because today's farms are increasingly dependent on purchased inputs, the farm input market is another form of interaction between farming and the rural economy. Again, market size and the capacity to support retail establishments (e.g., equipment and feed dealers, repair services, and veterinarians) are important.

A substantial portion of the increase in farm productivity is due to increased use of physical capital, energy, fertilizers, chemicals, improved seed varieties, animal genetics, etc. [3] Thus, farms are closely linked to the nonfarm economy for inputs no longer produced within the farming sector *per se*, Farmers concern about acquiring fuel and nitrogen fertilizer during the mid-1970's are two recent vignettes about the strength of this linkage and how changes in the nonfarm economy influence farm production practices and management decisions.

The evidence of change in the number of farm input establishments in Wisconsin does not provide a definitive conclusion supporting or denying national trends or theoretical expectations. In general, the number of farm input establishments in nonmetro areas increased between 1971 and 1981. Agricultural service establishments increased by 50 percent, trucking and warehousing by 20 percent, miscellaneous business services by 147 percent, and miscellaneous repair services by 73 percent. Nonmetro establishments supplying building materials, hardware, and farm equipment declined by 24 percent. Implicit in the aggregated data is the finding that the number of farm equipment dealers also declined. [4] There was no discernible pattern of change in the employment size distribution of these firms.

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[3] A measure of the increased linkage between farms and the nonfarm sector is the index of purchased farm inputs. The index of purchased farm inputs (1977 = 100) increased from 60 in 1950 to 106 in 1982 (USDA, 1984b:59).

[4] Retail farm equipment (SIC 5252) establishment data were not published separately at the state level in 1981, but were included in the more general category, building materials, hardware and farm equipment (SIC 520). The latter experienced a 23.6 percent decline in the number of establishmetns located in nonmetro Wisconsin counties between 1971 and 1981.

Changes in Nonexport Sector

Recent changes in the nonexport component of the rural economy, specifically in export supporting activities, have several implications for farming. The first of these changes is the deregulation of the transportation industry. The disappearance of many branch railroad lines serving farm input supply firms makes the suppliers of bulk items like fertilizer dependent on trucking as the only mode of transportation. On the other hand, reduced truck freight rates are a common response to increased competition resulting from deregulation.

The importance of transportation infrastructure to farming cannot be denied. The condition of rural roads and bridges affects the movement of farm commodities and inputs as well as the movement of farm equipment among spatially separated farms.

The deregulation of the financial industry also has significant implications for farming. First, farmers, regardless of size, gain access to higher yielding investments for their savings. Second, the increased cost of funds to local banks reduces the implicit subsidy from savers to borrowers and increases borrowing costs. Third, farms, especially larger commercial farms, gain access to larger sources of financing through local affiliates of bank holding companies. Smaller farms may find former financing sources no longer available. Fourth, the loss of community banks and an experienced management sensitive to local farming conditions may hinder capital flows to farming. Finally, because of the use of market sensitive funds or new decision rules imposed by external management banks inability to be patient with farm loans during times of farming, distress may adversely affect farming operations.

Changes in the Export Sector

The recent expansion of "new" export activities in rural communities has numerous implications for farming, especially when these activities are not closely tied to commodity prices or weather, etc. These export activities include service producing busiensses (e.g., recreation, health care, and information) and transfer payments (e.g., Social Security). Jobs created by the increased export activity provide supplemental or even major sources of income during periods of low farm returns. [5] Furthermore, these jobs often enable the next generation of farm operators to work near the home place until the current generation retires or, alternatively, to supplement family income in cases where a single farm cannot support two families.

Nationwide, nonfarm wage and salary employment grew at an average annual rate of 2.6 percent in nonmetro counties, and 1.5 percent in metro counties, between 1969 and 1973. While nonmetro counties continued to grow faster between 1973 and 1979, the margin was 2.5 percent and 2.2 percent per year (Bluestone, 1982). Even though Daberkow and Bluestone (1984) suggest that recent (1976 to 1982) nonmetro employment growth lagged behind metro employment growth, the dramatic growth of nonfarm wage and salary employment signifies the transformation of rural economies.

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[5] Osbourn suggests, "Smaller farms tend to be more dependent on a healthy diversified community economy that can provide supplementary farm family income; that is, the community provides the economic base that allows the small farm to exist. A decline in off-farm income could lead to a decline in small farms."

FARM AND OFF-FARM LABOR ALLOCATION OF FARM HOUSEHOLDS

The labor supply of adults in farm households links the rural community and the farming sector in three ways. First, farm persons are a source of labor for nonfarm businesses in the community. Second, off-farm employment for the farm family increases total family income, or reduces its annual variation, or in other ways enhances family well-being. Finally, farm households, as additional demanders of goods and services, improve the feasibility for certain trade or service activities to be provided in the community.

Farm Persons as a Source of labor

It is definitional that persons who reside on farms supply labor to the farming industry, a traditional export base sector. Most are employed on their own farm, as an operator or other adult that does farm work, either paid or unpaid. The importance of farm persons as suppliers of labor off the farm to other export base or nonexport industries is of interest as well.

In recent decades, the Wisconsin farming sector has shifted away from labor intensive enterprises, and substituted capital for farm labor through continued mechanization. Both trades free labor from farming, making labor available for off-farm employment. [6] In 1950, 80 percent of the employed persons who lived on farms were employed as farmers on the farm where they lived. In contrast, by 1980 only 60 percent were so employed (i.e., 40 percent of employed farm residents were employed in off-farm employment). On average, each Wisconsin farm now provides one-half person to the off-farm labor force, compared to one-third person in 1950 (U.S. Bureau of the Census, 1952; 1983).

Sumner (1982) found that farmers are relatively flexible in adjusting their off-farm work to changes in off-farm wage rates. Such flexibility means that farmers can respond to off-farm employment opportunities by adjusting their farm-nonfarm labor allocation without having to stop farming altogether.

ENHANCING FARM FAMILY WELL-BEING WITH OFF-FARM EMPLOYMENT

Off-farm employment as an alternative source of income is increasingly important to farm households. Its significance varies with farm size (Table 2). Of the total cash income reported by U.S. farm households with sales under $20,000 in 1979, 6 percent came from farm earnings, 76 percent from off-farm employment earnings, and 18 percent from other, unearned sources. In contrast, households with sales of $100,000 or more averaged 85 percent from farm earnings, 9 percent from off-farm employment, and 6 percent from other unearned sources.

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[6] Between 1974 and 1978, the proportion of farm operators in the nation reporting their principal occupation as "something other than farming" increased by 10 points to 46.5 percent (USDA, 1984c).

TABLE 2.—LEVEL AND SOURCE OF INCOME FOR U.S. FARM HOUSEHOLDS BY FARM SALES, 1979

Item	Total	Gross farm sales		
		Under $20,000	$20,000 to 99,999	At least $100,000
Total households	2,354,225	1,446,301	631,595	276,329
Average income from all sources	$25,479	$17,351	$23,437	$72,683
Farm income (percent)	45	6	59	85
Nonfarm income (percent):				
Earned	42	76	29	9
Other	13	18	12	6

Source: U.S. Department of Commerce, 1979 Farm Finance Survey, AC78-SR-6.

The availability of nonfarm job opportunities has distributional consequences for the farm population. Therefore, an analysis of the distribution of specific sources of income among farm families provides insight into farm family well-being. A family's well-being depends on its consumption requirements, and how its income compares with that of its neighbors.

The data presented in this discussion are from a 1983 U.S. Department of Agriculture/University of Wisconsin-Madison random sample survey of all farm households in eight southwestern Wisconsin counties. On average, these households reported $15,260 net cash farm operating income, $7,200 from off-farm employment, and $4,670 in transfers, nonfarm asset earnings, and other sources for 1982.[7] Mean net household income was $27,130 (Salant et al., 1984).

The Lorenz curve in Figure 2A displays the size distribution of income from all sources for farm families in the Wisconsin survey. The curve shows the cumulative percentage of families ranked by total household income on the horizontal axis and the cumulative percentage of aggregate income on the vertical axis. If each family received the same income, the curve would be a 45 degree diagonal line; each decile of the population would receive 10 percent of the aggregated income. But the plotted curve in Figure 2a falls to the right of the diagonal, demonstrating that the distribution was not equal. The greater the distance the plotted curve falls to the right of the diagonal, the greater the inequality of that income distribution.

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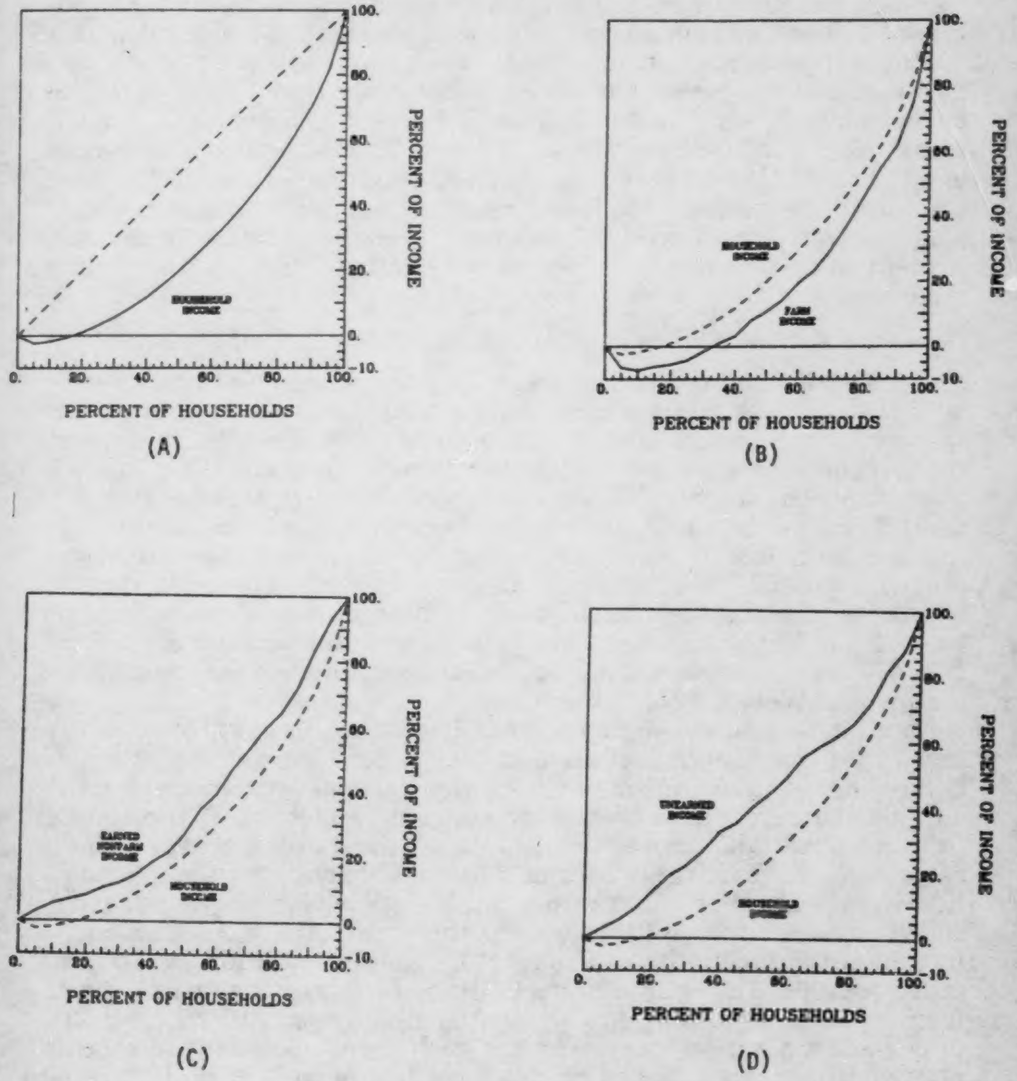
[7] Nonfarm income is important nationwide also. Banks and Kalbacher (1981:6) report that 43.3 percent of nonmetropolitan families who reported farm self-employment income in 1975 received less than half their total family income from farming. Another 23.9 percent of the families had negative net farm earnings.

FIGURE 2.—Lorenz and source impact curves for farm, earned nonfarm, and unearned income, 8-county Wisconsin area



(A)

(B)

(C)

(D)

Source: 1982 Family Farm Survey

For 5 percent of the farm households surveyed, large losses in net cash farm operating income and the absence of nonfarm income resulted in negative total household income in 1982. Cumulatively, these households received a "negative" 2.3 percent of aggregated household income. Negative income is reflected by the downward sloping segment of the Lorenz curve in Figure 2A. The curve slopes upward to the right of 5 percent and crosses the horizontal axis at approximately 18 percent. Thus, the next 13 percent of all households (arrayed by income) reported sufficient positive income to compensate for losses reported by the bottom 5 percent. Cumulatively, the lowest 20 percent of all households received 1 percent of total household income. In contrast, the top 10 percent received 30 percent of all income.

Impact of Income Source on Equality of Income Distribution

The distribution of any one source of income among families may be more or less equally distributed than total income from all sources. Some income sources tend to equalize the distribution of total income, and other sources contribute to inequality. Knowledge about the impact of income sources on the aggregate distribution of income has relevance because of public interest in modifying the total distribution. An extension of Lorenz curve analysis makes it possible to graphically display the impact of each income source on the distribution of total income and to provide insight into these kinds of questions. These graphic presentations are called "source impact curves," a concept developed by Weber (Saupe and Weber, 1974).

Families are again arrayed from lowest to highest total family income, divided into deciles, and the Lorenz curve is plotted as before. For source impacts curves, the vertical axis measures the cumulative percentage of specific sources of income. If the source impact curve falls above (to the left of) the Lorenz curve, it indicates that the particular income source is distributed among families in a way that makes the total distribution more equal. A source whose curve falls below (to the right of) the Lorenz curve increases the inequality of the total income distribution, relative to other sources. The source impact curves for three major sources of farm household income are presented in Figures 2B, 2C, and 2D.

The source impact curve for net cash farm operating income is plotted with the original Lorenz curve in Figure 2B. It illustrates that the lowest four deciles of farm families (including the 25 percent with losses) received 2.5 percent of net cash farm operating income, while the highest decile received 39.1 percent. The source impact curve is to the right of the Lorenz curve, indicating that net cash farm operating income tended to increase the inequality of total family income distribution.

Nonfarm self-employment income and nonfarm wages was also a major income source for farm families, comprising 25 percent of total income from all sources (Figure 2C).[8] The plotted source impact curve lies to the left of the Lorenz curve, indicating that this source tended to equalize the distribution of total income. That is, nonfarm income permitted poorer farm families to increase their share of aggregated income. Earned nonfarm income was not equally distributed however. The lowest decile received 5 percent while the upper half received 73 percent.

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[8] National data indicate that between 1978 and 1983 nonfarm wage and proprietor income comprised 69 to 74 percent of all nonfarm income received by farm families (USDA, 1984a:40).

Unearned income (transfers, interest, dividends, nonfarm rent, etc.) also tended to equalize total income distribution (Figure 2D). Because these sources were only 17 percent of total income, their impact on the Lorenz curve was less than that of income from nonfarm wages and salaries.

Source impact curves reflect the underlying distribution of productive resources and entitlements. Limited inferences should be made, however, about the effect of changes in the source composition of rural income on the equality of the distribution of rural income unless it is known which part of the distribution (i.e., which deciles) receives the increase.

SUMMARY AND CONCLUSIONS

The theoretical concepts of welfare theory, export base theory and central place theory help to explain the interaction between farm households and rural communities. This paper demonstrates that the link between farms and rural communities is a two-way link beneficial to both parties. There are numerous changes occurring in rural communities with significant implications for farm households, the farming sector, and farm policy. Clyde F. Kohn (1961) described the rural community/farming relationship when he wrote, "Farmers stand in the middle of a sequence of urban activities involving those which fabricate and handle necessary inputs and those which handle and process farm outputs."

The changing composition of rural employment, income sources of rural persons, and of the export base of rural communities documents the reduced dependence of rural communities on farming. In more diversified rural economies, the existence of nonfarm jobs and employment creates opportunities for farm families permits continuation of existing farming units and a growing population base. At the same time, a diverse rural income base (one that reduces reliance on farm income sensitive to weather and commodity prices) enables merchants to continue profitable operations even during less than favorable farming conditions.

The repopulation of rural areas and the diversification of their income sources enables communities to maintain or expand the local trade and service sector. In this way, local access to consumer products and business inputs can be sustained.

Many of the sectors previously thought of as followers of changes in the export sector are leading the economic change of rural communities. Changes in telecommunications, transportation, and finance affect lifestyles of farm families and profitability of surrounding farms.

Evidence from Wisconsin indicates off-farm earned income and unearned income tend to equalize total household income distribution among farm persons. This suggests that increased opportunities for nonfarm employment for farm persons who are relatively less well-off tends to equalize household income distribution.

In conclusion, attempts to diversify and develop the economies of rural communities must not be viewed as competitive with a viable farming sector. Care must be exercised in understanding the impacts on farm families and the rural economy of the alternative economic changes proposed.

As thought is given to changes in federal farm commodity programs and other rural legislation, it is crucial that farming not be viewed in isolation, but in conjunction with the rural communities that historically have been equal partners in the general well-being of all rural residents. The partners each have something to contribute. Ignoring either reduces the prospects of lasting improvement for both.

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AGRICULTURE, COMMUNITIES, AND URBAN AREAS *

By Robert L. Moxley **

Scientific interests in communities, large and small, goes back to its beginnings with works by such scholars as Weber and Durkhiem. Sociology, and especially rural sociology, has had an interest in farms and agriculture, per se, at least since the 1920's and 1930's (e.g., Brunner 1927, Hamilton 1939.) By the 1960's, however, the number of sociologists studying farms, farmers, or agriculture declined considerably with most interest being directed to other topics. In the early 1970's, the first signs of a resurgence appeared. In 1975, a small sociological movement within rural sociology emerged to champion and facilitate sociological research on agriculture and the trend in interest and research produced has been dramatically upward since that time.

This group found new relevance in Goldschmidt's (1947) California studies of the effects of large-scale versus small-scale agriculture on the communities of Arvin and Dinuba. His work began to be footnoted and his hypotheses restudied in a series of works to be discussed below. Goldschmidt's original work was republished (Goldschmidt, 1978a); he was invited to speak to the Rural Sociological Society; and reviews, updates on his views, and continued research were published (Goldschmidt, 1978b; Goldschmidt, 1978c; Goss, 1979).

Goldschmidt (1978a, 1978c) studied two communities in the San Joaquin Valley of California. One (Arvin) was surrounded by large-scale farms (average size, 497 acres) and the other (Dinuba) by small-scale vineyards, orchards, and dairy farms (average size, 57 acres). A number of differences were found. For example, the large-farm community had a decreasing number of commercial services; lower participation in church and voluntary organizations; greater economic inequality; lower participation in government and voting; less political power; a greater proportion of unskilled workers; a declining volume of trade; a lower average level of living; fewer public services such as physical facilities, local newspapers, and schools; and less adequate arrangements for making local decisions on community issues. It was argued that large farms bring about declining community quality-of-life, not only because of the differences in occupational structure, but because large farms buy from outside, borrow from outside, sell outside, and externalize many of their costs of which some are transferred to the local community.

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EFFECTS OF LARGE-SCALE FARMING ON COMMUNITIES

A number of researchers have tested a variety of relationships from the Goldschmidt studies. Some have conducted follow-up projects in Arvin and Dinuba (LaRose, 1973) or very similar studies (Small-farm viability project, 1977) in the San Joaquin Valley. In chapters reviewing the literature, Larson (1981) and Heffernan (1982) each discussed several of these in detail and find general support for Goldschmidt's conclusions. None of the studies reviewed by Heffernan (1982) are noted to indicate any contrary evidence to Goldschmidt's findings.

Investigations elsewhere have also provided evidence to support the Arvin and Dinuba patterns. In a Louisiana parish, Heffernan (1972) interviewed corporate-integrated broiler producers, farm owner-managers, workers on corporate farms, and family farmers. Workers on corporate farms were much less involved in formal and political activities than their managers or farmers on family farms. There were no significant differences between workers on family farms and corporate-integratees. Martinson *et al.* (1976) found that individuals on family farms were more involved in voluntary associations and social and political activities than were other farm workers. Rodefeld and Lancelle (1978) found that in Wisconsin the family type farm work force, as opposed to the "larger than family" and "industrial" types, had the most residencial stability; the highest family net income; the most involvement in voluntary associations; the largest financial contribution to churches; and the highest percentage voting in school board, Federal, State, and local elections (see also Rodefeld, 1978 and Rodefeld, 1974).

A study of 41 grape producers in a six county area of Missouri supports the proposition that owner-managers of family farms are more involved in community activities of a social nature than are owner-managers of nonfamily type farms (Heffernan and Lasley, 1978).

Poole (1981) studied 67 dairy farmers in a random sample in Maryland. He concluded that, "As the scale of dairy farm operation increases, changes in the operational structure and functioning of the farm take place which have negative effects on the ability of the farm family to participate in the formal social organizations of the community."

Goldschmidt (1978b) used precollected data to test the generalization of his large farm-lower class hypothesis. He found a strong positive relationship between the proportion of lower class population and the prevalence of corporate farming based upon the proportion of total State agricultural production accounted for by the 31,000 largest farms. Such confirming evidence as that summarized above has led Heffernan (1982:341) to conclude that, "It seems significant that a dozen studies, spanning four decades and all regions of the nation and performed by different researchers using different methodologies, have rather consistently shown that a change toward corporate agriculture produces social consequences that reduce the quality of life in rural communities."

Despite this emerging support, there were a few early pieces of disconfirming evidence for the Goldschmidt studies. More has recently developed. Larson (1981) recounts several contrary studies.

One in Nebraska found the number of farms decreasing, yet the number of businesses remained stable for a half-century and the different types of businesses increased (Anderson and Miller, 1953). Another indicates that for the U.S. during the 1960's, the higher the rate of farm population decline, the faster the growth of median farm family income according to state and county level data (Gardner, 1974). Alabama counties that started the decade with relatively large farms tended to have slightly higher rates of increase in median family income and reduction in income inequality (Wheelock, 1979).

More recently, Eberts (1979) analyzed 196 nonmetropolitan counties in the U.S. northeast. Correlations between average market value of farm sales and 40 measures of quality of life revealed 18 which were moderately associated ($r = .25$ to $r = .44$). Among the highest correlations were median family income (.31), medical specialties (.32), total per capita expenditures (.36), percent in poverty (−.32), and percent sound housing (.32). Many other variables correlated more weakly but significantly at the .05 level yielding indirect evidence that large-scale, productive farming is not necessarily a threat to local quality-of-life.

Through interviews with 193 farmers in three Iowa watersheds, hypotheses from Goldschmidt's work are tested by Korsching (1984). The hypotheses are that (1) the size of farming operation is positively related to the purchasing of goods and services in larger and more distant trade centers and (2) the proportion of land rented is positively related to the purchasing of goods and services in larger and more distant trade centers. Neither hypothesis was supported by this sample.

In the 1980's, one notes that more researchers on this topic are beginning to use sophisticated research designs and other methodology. Using regression analysis, Swanson (1982) examined 30 Pennsylvania counties for influences on farm structural change over time and its influences on trade center population change. Neither of the farm structural variables (change in farm numbers and change in mean farm size) was associated with change in trade center population.

In one of the more methodologically advanced studies, Harris and Gilbert (1982) used precollected data in a path analysis to test several closely related hypotheses. They proposed that (1) farm scale (percent farms with sales over $100,000) is positively related to percent of farm personnel in the lower class, (2) farm scale is negatively related to median farm family income and farm workers' incomes, (3) farm structure is negatively related to rural income, (4) median family farm income and farm workers' incomes are positively related to rural income (median family income), and (5) farm scale is negatively related to rural farm income. While other hypotheses were confirmed, those regarding farm scale were not. Combining the direct and indirect impacts, the net effect of scale of farming on farm family and farm workers income is positive. Also, the total effect of large scale farming on rural income is moderately positive (.21). The authors conclude, "While there are negative direct effects between large farmers and rural income and overall negative effects between lower class farm personnel and farm persons income as well as rural income, the total effect of large farms do not support the Goldschmidt model" (Harris and Gilbert, 1982:456).

Using precollected data and a multivariate, over time regression analysis, Reif (1986) examined several relationships among patterns of farm structure and selected socioeconomic conditions in U.S. counties. Counties ranking highly on an index of larger family farm agriculture had consistently better employment and income conditions while countries higher on a smaller family farm agriculture index tended to have more negative socioeconomic circumstances. Counties higher on a third index for corporate/commercial agriculture tended to have either insignificant or slight negative relationships with the socioeconomic conditions.

In case one is tempted to blame the above outcomes on precollected data, the use of county level analyses, or the failure to observe the totality of local areas missing in such studies, recent observational work at the community level outside of California also raises questions. A study of four communities in Maine suggests that local social and economic institutions in some communities decline regardless of the structural makeup of local agriculture. Moreover, in one community with small farmers,

> Survey responses indicate that farmers influence has been used to limit spending on public amenities in order to keep property taxes low. This contrast with the Goldschmidt implications of small farm influences on quality of life (Vail, Forthcoming).

Elsewhere, the author points to ". . . the negative consequences of suburbanization for large commercial farms noting the paradoxical role of small farm newcomers as predators of large farms" (Vail, 1985).

In another of the more extensive studies of the relationship of farm structure and rural "well-being" Skees and Swanson (forthcoming) use precollected data sources and focus on the counties of 13 southern and border States. This research analyzed change in farm structure and well-being from 1970 to 1980. Hypothesizing that farm structure (farm numbers) is negatively related to poverty, the study unexpectedly finds the reverse. As farm numbers decline, so does poverty. Counties in which mean farm size increased had decreasing levels of unemployment (−.148 beta) but with some increases in poverty (.102 beta). The authors point out that the latter relationship is the ". . . first evidence in support of the Goldschmidt hypothesis, and that ". . . it is possible that the threshold alluded to by MacCannell and Dolber-Smith (forthcoming), where further increases in farm size will lead to decreases in well-being may have been reached" (Skees and Swanson, Forthcoming, p. 50).

COMMUNITY AND URBAN IMPACTS ON AGRICULTURAL HINTERLANDS

A number of instances in which community and urban characteristics have a direct or indirect impact on surrounding agricultural activities have been suggested. The most direct and obvious, perhaps, is urban expansion. This is accompanied by the migration of nonfarm people into rural areas, the institutional overload on tax supported services, and the cultural clashes between the values and beliefs of "rural" and "urban" and "oldtimer" and "newcomer." More significant than direct loss of farmland are more subtle impacts which reach a far wider area of influence. Tax assessments are driven up due to land speculation and demands for expanded public services and farming activities are hampered by activities of nonfarm population. Eventually investment ceases in farm improvements while cropland shifts to idle land and passes into the hands of speculators. Related agribusinesses, in turn, are effected (Larson, 1981).

Other evidence of development in urban and rural places which will likely influence agriculture positively as well as negatively is documented in a review by Beauleiu and Molnar (1985). Nonfarm employment opportunities, land use, and the quality and management of water are discussed as matters which have some current and many potential impacts on the farm sector. Research is needed on these areas to help shape reasonable policies which will benefit the interdependent life of community and farm populations.

The policies developed by local governments to deal with the problems above illustrate the impact they have in terms of the types of decisions made (or not made) to deal with urbanization-hinterland conflicts. Some of these include zoning to separate farmers and nonfarmers, the regulation of farm practices, the transfer of rights to develop farmlands, purchase of farmland development rights by local governments, special assessments of land, tax exemptions on farm improvements, and the establishment of agricultural districts (Larson, 1981). To these could be added restrictions on the use of chemicals, water related regulations due to quantity used or water polluting activities, and other environmentally sensitive farming practices (Beaulieu and Molnar, 1985).

As one can see from the lack of its mention in the preceding paragraphs, there still is not a great deal of empirical research to substantiate and determine the degree of impact of these specific community activities on agriculture. Some previous research does exist, however, on the broader impact of urban places on agriculture. These studies have approached their topics mostly from the human ecological and central place perspectives and have been relatively ignored by previous discussions of farm-community interrelationships focusing on the Goldschmidt hypothesis.

Research to substantiate the existence and extent of the effects of communities on agriculture discussed above are based on illustrative cases. While broad based examinations of the effects of specific urban characteristics are not plentiful, some do exist. Goldsmith and Copp (1964) review several previous articles which, through theoretical or empirical evidence, support the notion that agricultural activities are influenced by size of and access to metropolitan centers. They then use precollected data on 299 counties in the northeastern region to assess the influence these same ecological variables had on farms, average value of land and buildings per acre, and average size of farm. They conclude that both of the dependent variables were affected by the level of county urbanization, by accessibility to metropolitan centers, and by size of metropolitan centers. They also found evidence of the influence of major centers other than metropolitan areas. With the importance of estimated land values in establishing lending levels for farmers, these types of studies have practical as well as theoretical interest.

Soil types, city size, proximity to cities, and volume of highway traffic also have been found to explain significant proportions of the variation in farmland values. In another study using precollected data, a sample of 352 counties were examined by Tarver (1966). Soil type had the most explanatory power for predicting both farm size and farm value. Traffic volume was the next best predictor of farm value.

The impact of size and distance from urban center on farmers' occupations, incomes, and educational statuses has also been studied. Existing data on counties of the U.S. North Central region was used to test the hypothesis that there would be a diminishing effect of urban centers on the farm population as size of center decreases and distance from center increases. The findings supported this hypothesis with regard to occupational and income status but not with regard to educational status (Stoeckel and Beegle, 1969).

In still another study of U.S. counties using precollected data, gradients of "per acre value of land and buildings" and "per acre value of farm products sold" support the hypothesis that metropolitan centers exert an influence on the way agricultural activities are organized. As the gradient moves from metro to urban county classifications, the value of land and buildings and farm products goes down for 1950, 1959, 1969, and 1974 but the disparities decreased somewhat between 1969 and 1974 (Heaton, 1980).

More recently, human ecological theory has been used to develop a perspective on part-time farming and to study 2,413 U.S. counties. Using precollected data the authors examine the effects of mechanization, farm diversity, percent of total acreage harvested, nonfarm labor force, nonfarm technology, and sustenance diversity. While the percent of acreage harvested was the most important variable (using standardized regressions), nonfarm sustenance diversity was the only other variable to explain a significant amount of variance (Albrecht and Murdock, 1984).

So far, the emerging evidence indicates that size, location, accessibility (distance and transportation-related variables), and the place of urban areas in a regional hierarchy have some effect on agricultural characteristics. As with all macro-level research perspectives, however, there are limitations to their explanations of the specific mechanisms of influence and the processes involved. Furthermore, ecological explanations will eventually need to be evaluated in comparison to the alternative explanations of agricultural variations in urban hinterlands. A shift to over-time studies will be prerequisite for reaching that goal. With the practical importance of some agricultural characteristics, some ecological studies will have immediate applied as well as theoretical interest. In this regard, the geographical emphasis of many USDA reports have and will continued to be useful (e.g., Green, 1985; Ross *et al.*, 1985).

WHERE DO WE GO FROM HERE?

It seems logical that with increased concentration in farming, decreases in farm numbers and the number of farm families will change the composition of the rural community directly and indirectly. The proportion of the total community or county population involved in farming will change. Because larger farms need fewer farm operators and more hired labor, the occupational and class structure of the farming population would change as well as the quality of life and social aspects in local communities. This line of explanation seems to be consistently supported by the studies in California.

However, plausible arguments or theories are not always born out by empirical research. Furthermore, there are at least two possibilities—two extremes not one—which could lead to the decline of the quality and quantity of rural communities. Not only would large-scale industrial farming lead to a decline in community quality of life, but also the decline of many unprofitable farms surrounding a given community. *Ceteras paribus,* this condition would seem to lead to a lower quality-of-life in almost all of the above community characteristics. An increase in farm scale in such areas therefore would suggest an increase in the quality-of-life.

In the real world, however, other things are not held constant as assumed by the above discussion and often in current theoretical formulations. There are other changes which could and probably do modify these effects on communities, especially the development of urbanized areas within or surrounding a farming region. These changes apparently attenuate the numerical decline of small and part-time farms. But a closer look needs to be taken through research. For example, research is needed to see if the growth of industry and other lucrative off-farm employment opportunities create alternatives in many areas which a farm family could ill afford to ignore in order to maximize their incomes. Such activity may draw some families out of farming. On the other hand, it may provide newcomers enough income to initiate part-time farming and eventually to become full-time farmers, especially in specialty products. While it is likely that influences run in both directions, empirical analyses which explore the latter possibility are scarce.

It is also possible that broad-scale forces are at work which influence whole regions in terms of social and economic changes in both their rural agricultural and urbanization patterns, making some city versus agricultural change correlations spurious as well as upsetting the patterns among communities expected by central-place theory. These macro-changes, of course, can even vary over time with response to world economic, political, and value shifts.

Butler and Fuguitt (1970) provide intriguing evidence for such macrochanges (regional development) influencing the relationship between population change and distance from larger towns in their study of three regions in Wisconsin. In a subregion of Puerto Rico, Young and Young (1973) found evidence of an unexpected regional change influence which attenuated their results relating the effects of community centrality and solidarity to community development (increases in differentiation). This type of regional and national penetration of influences on local communities and agriculture is also dramatically documented by Miller (1979) in a study of change over time in the Syracuse area and Onondaga County, New York. Another possibility is that in most communities in the U.S. agricultural hinterlands have had very minor affects on local communities. Green and Carlin (1985) catagorize only 702 of the 2,443 nonmetro counties as agriculturally dependent.

The effects on community growth and decline may depend largely upon the nonagricultural dynamics which effect urban activities such as manufacturing service industries, communications, transportation, and urban citizens' organizations. At the same time, such variables as year-to-year climatic changes and national government policies may be so important in some regions that local community changes are comparatively little significance for farming as a technological enterprise. Of course with urban growth, some farmland close to an urbanization seems obviously effected directly (e.g., increased value) and, therefore, some ubiquitous relationships which bear further research do appear between urban areas and farms.

A more sophisticated perspective needs to be brought into these considerations. This perspective would recognize that local changes, such as sudden widespread declines in family farming, may also effect communities and cities at a considerable distance through such things as farm input businesses, commodity processing industries, farm family consumption items, and agriculturally oriented banks and lending institutions. Many of the latter already have been noted in previous works. Most of the studies (with the exceptions noted above) lack generalizability since they are case studies; small one-county samples; or single commodity farm types. Also, most are not over time studies and do not empirically examine the reciprocal effects of community-related social change on agriculture (Buttel, 1983, Heffernan, 1982, Korsching, 1984). Regional differences also need to given more emphasis, but their significance will only be clear when standardized research is applied to them for comparison purposes. In summary, the state of the art with regard to specific research on the relationship between communities and agriculture has produced intriguing evidence but has a number of shortcomings.

Another probable source of inconsistency is the variation from study to study in the empirical data selected and in the quality of measurement operations applied to key variables such as farm scale, farm organization, farm viability, class structure, and community quality-of-life (Wimberley, 1980 and 1981; Moxley, 1980). Another problem is the lack of usage of the most up-to-date methodology for studying change over time and the use of county hinterland data which introduces an aggregation bias in drawing conclusions about local communities (Skees and Swanson, forthcoming). It can be added that in most studies, explicit sociological theory (explanations of long-term rational and regional change) is lacking or that the theory is inadequate to predict the outcomes observed. Thus, our "understanding" remains fragmentary and in serious need of intellectual effort to make sense of the seemingly disparate empirical evidence. Important starting points have been provided (Goss, *et al.*, 1980 and Young, 1983) but need to be incorporated into further research and theoretical development.

We need theoretically linked national and regional studies, community-specific data, large samples, longitudinal and panel research designs, use of the most current methodological and statistical techniques, improved specification and measurement of concepts, and further theoretical work to develop more adequate explanations. This will require some reallocation of research funds to allow for increased investment in social science research on agriculture and community interdependencies. The best research does not necessarily come cheaply. It will also take increased interest and participation of larger numbers of social scientists from several existing social science specialties. But, the future of our Nation's farms and communities may be well worth all of this.

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Community

RURAL COMMUNITY DEVELOPMENT [*]

By Gene F. Summers [**]

Social Science has virtually abandoned the rural community as an object of study on the assumption that its meaningfulness was swept away by the forces of mass society. The notion that communities exist in social isolation or possess absolute autonomy is nonsense. We know that. But some take that fact as sufficient evidence to claim that the rural community is no longer relevant. They claim that the increased presence of extra-local forces in the community—vertical integration—has destroyed "horizontal integration." Therefore, community no longer exists in any meaningful fashion. Announcement of the death of rural communities is slightly exaggerated. The argument is both illogical and not supported by historical evidence.

I want to take exception to those who argue that community or locality is no longer an important locus of social organization and those who claim that community is dead, dying, or meaningless. To the contrary, community is immortal. As long as there are human beings confronting a harsh physical and social environment, there will be community.

There are several important expressions of community: community as social organization, community as an ecological system, and community as communion. It is the communion expression of community which is most crucial because it reveals the foundations of community upon which other expressions of community are built.

Community as communion has its origin the private troubles of individuals. Abram Maslow's hierarchy of needs captures the essence of this truth. At the base are needs for materials aspects necessary for biological survival and security from potential physical harm. As these are secured, social needs predominate. Test this reasoning for yourself. Imagine your own version of utopia. It will include freedom from hunger, starvation, pestilence, and illness; trust; caring and love of at least some fellow humans; economic security and freedom of expression, liberty to explore new ideas; and opportunity for personal development.

Threats to such felt needs are private troubles. We experience them as our own personal burdens. They are integral elements of our existential being. But we are able to communicate with others about us. We do know how to complain. As we share our private troubles we discover quickly we are not alone in our misery and need. Thus, private troubles become public issues around which people are able and willing to mobilize for collective action.

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[*] Revision of a speech made before the Rural Sociological Society, plenary session, Blacksburg, VA, August 22, 1985. Most of the topics treated here are discussed more completely by Summers in "Rural Community Development," *Annual Review of Sociology*, Volume 12, 1986.

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Mobilization for collective action generates a sense of communion among those actively involved in pursuing their common cause of course. The organizational focus of mobilization is not always a locality or territory. It may be a religious, political, labor, ethnic, racial or gender organization, or the national state. But mobilization also has a locality or territorial focus. We line our lives in proximal space and many private troubles originate in nearby conditions.

Recognition that some public issues transcend the proximal environment sometimes leads to collective action efforts on a broader stage. For example, we have turned to the national state as the appropriate organizational instrument to intervene in society and provide solutions to public issues which we believe we cannot provide for ourselves. But when the national state fails to perform in accord with our expectations, there almost certainly will be a resurgence of interests in local efforts. Thus, it is precisely at those moments in history when private troubles are most severe, widely shared, and the national state least responsive that community as communion will manifest its strongest expression with a territorial focus.

That brings me again to the point that rural community development needs a sociology that maps state, economy, and community relationships and which provides explanations for changes in these relationships over time and in various societies. Sociologists who are concerned for community and its development may be tempted to abandon sociology and join the ranks of practioners. We must not let that happen. As sociologists we have a crucial role to play. It is constructing a proper sociology of community.

There are a great many areas of interrelationships among state, economy, and community to be mapped. The task is enormous and even outlining it is beyond this chapter's allotment. However, I do want to give you two examples of the kind of mapping I envision.

INDUSTRIAL RESTRUCTURING AND COMMUNITY ECONOMIC DEVELOPMENT [1]

Capital mobility is the *sine qua non* of economic development, according to many economists. Without the freedom to invest, disinvest, and reinvest, capital cannot be used efficiently in pursuit of its highest use level. Its movement from sector to sector and region to region must be unrestrained in order to ensure economic progress through a process Joseph Schumpeter referred to as "creative destruction." More recently, economic analysts such as Lester Thurow argue that America's economic malaise is the result of too little capital mobility rather than too much.

Critics argue that the free flow of capital investments continually engenders the desertion of some areas, spatially and sectorally, while opening new areas of production. The result is a continual restructuring of the economy, the territorial division of labor, and the local social structures to the benefit of owners of capital and at the expense of workers and communities.

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[1] This issue is discussed more fully in *The Annals of the American Academy of Political and Social Science*, Vol. 475 (September, 1984), Gene F. Summers, special editor.

In today's world economy, the movement of capital and the accompanying restructuring process have little regard for national boundaries. Capital markets clearly are international. Their operation is producing a new international division of labor in which production of goods—especially labor-intensive production processes—is being shifted from advanced industrial nations, such as the United States, to less-developed and nearly developed nations. These international shifts also are restructuring the domestic economy, which is apparent in the relative decline of manufacturing as a source of jobs. It is this diminution of the traditional strength of manufacturing that is popularly referred to as "deindustrialization."

What happened to American agriculture is now happening to manufacturing or, at least, some portions of it. Factories are producing more goods with less labor just as farms produce more crops with fewer farmers.

This process raises the question of whether there are sufficient replacement jobs for factory workers rendered redundant by the restructuring. According to Candy Harris of the Brookings Institution, replacement jobs are lacking in several manufacturing industries. Moreover, nonmanufacturing is not great enough to absorb the surplus labor even with retraining and/or relocation. This also has been the experience in Europe, especially in Britain and Sweden.

The mismatch of lost and replacement jobs along spatial, gender, race, skill, and income dimensions has serious implications that extend far beyond reshaping the industrial profile of the American Economy: regional inequality, abandoned communities bidding up the subsidy cost of new industry, an increase in the prevalence of the working poor, the emergence of a blue collar aristocratic class coupled with the presence of an enlarged permanent underclass, underemployed men threatening the recently established position of women in the labor force, and a weakening of organized labor's ability to negotiate. The shortfall of replacement jobs heightens these social implications because it impacts the same dimensions in an additive fashion.

A world economy that exceeds the political grasp of modern national states is a reality that produces domestic economic restructuring and threatens worker welfare and community stability. The shift from goods production to service provision as the dominant mode of employment has occurred as anticipated in the post-industrial society but in many other respects the sparkling vision has become tarnished. Greater productivity through technology was expected to free workers from their mundane existence as factory automatons and allow them to pursue nobler endeavors in public and private service activities. Equality of opportunity was to be a right of citizenship alongside equality of services.

One might expect that the shattered dreams for a better life in post-industrial society would lead to widespread public mobilization for stronger and more forceful state policies to resuscitate the public's hopes. But it is not happening. People are not demanding more of the national state. Indeed, the electorates of most industrially advanced nations have manifested a shift toward the political right. In England the Thatcher government, which presided over the deindustrialization of Britain for four years, was re-elected with a massive parliamentary majority. David Rose and his colleagues from the University of Essex suggest an explanation for this anomaly. It lies in the fact that, even during deindustrialization with rising unemployment, most workers—75 to 80 percent—have jobs and most have also experienced rising living standards. Moreover, people view the world as complex and beyond their control or the control of their political party. A general political mood of pessimism, fatalism, and cynicism has settled over Britain. The current state of affairs is accepted with resignation as inevitable.

City Limits [2]

We are accustomed to thinking about private sector firms operating in a market characterized by competition but we are frequently oblivious to the fact that communities also compete. And it is the local state which represents the "community interest" in such competition. There are conflicting interest groups in every community based on class, ethnicity, race, age, religion, education, occupation, or other social categories. Superimposed on them is the local state whose authority and power coincide with the territorial perimeter of a local system. The future well-being of the community depends on actions of the local state, although not exclusively so. At times local state policies and actions may coincide with other corporate interest groups but that occurrence is coincidental because the ultimate interest of the local state must be the continued existence of the social system which occupies its territory.

In competition with other local states there are at least three significant dimensions of comparisons: economic, social, and political. They are not empirically independent but they are analytically separable and my comments dwell on the economic competition among communities which I believe is made dynamic largely by actors representing the local state. Firms compete in the private economy and their managers only incidentally consider the interests of the community and the competition among local states. The private sector is only marginally interested in the territorial or spatial dimensions of the competition among communities. This distinction between local state and private sector goals is crucial because it allows one to recognize the basis for the sometimes alarming lack of common interests between local officials and local business owners and managers.

Community economic development is the capacity of the local state to continue generating income and employment in order to maintain, if not improve, its relative economic position. If you look at past observations of growing, stable, and declining communities, you must conclude that the institutional apparatus is critical. Vital communities possess social constructions, with underlying assumptions, which encourage and permit the orderly and efficient use of economic resources, insure their maintenance, and allow adaptation to changes in the environment.

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[2] This example is extracted from an unpublished paper by Ron E. Shaffer and Gene F. Summers, *Community Economic Vitality*, 1984. Madison: University of Wisconsin, Department of Agricultural Economics.

Perhaps in the short-run, say 10 years or so, community economic development depends largely on the existing export base and the mechanisms in place which enable the locality to capture the money generated by it. But markets for products and services come and go. Consumer demand today is vastly different from 50 or 100 years ago. Therefore, the longevity of any community ultimately depends on its ability to renew its export base; the capacity to invent, to innovate, or to acquire new exports. Community economic development requires a local network of services and facilities which insure the continued availability of factors of production; especially land, labor, and capital. Let me comment briefly on each of these in the context of competition among communities.

Land

Land is the economic resource most ameniable to control by the community. All production occurs somewhere; it must have a spatial location. Communities also occupy space and because of the prerogatives of the modern state they have a great deal of control over their territories. Since land is an essential economic resource, its control gives the community—the local state—a substantial ability to direct the economic vitality of the community.

It is the case, of course, that the local state today has less control over its territory than in the historical period of the city state. Likewise, the land use powers of the local state vary noticeably from one nation-state to another and therefore constitutes an important dimension of cross-national comparisons. The local state powers in Canada are much less than in the U.S. for example. Consequently, specific policy options that are workable and wise in the U.S. may be weak or infeasible in Canada. Nevertheless, local institutions to exercise land use controls do exist in virtually every society.

Land varies in its economic potential and therefore in its value. Because it does so, its potential dictates the economic vitality of the community to a large extent. Historically, great cities emerged where land had great economic potential. Breaks in modes of transportation made land in the immediate vicinity valuable since it was needed for the freight transfer activities and as a site for housing workers and provisioning their needs. Breaks in transportation gave us harbor cities, railroad junction cities, and river cities. Today, air transportation and motorways have diminished the transportation break as the basis of land value in these cities. Where other uses have been found for the land and the value has remained high, the city economy has retained its vitality. In some instances, once thriving transportation break cities have declined and shrunk to near extinction. Communities whose birth was sired by immobile natural resources face a similar threat once the resource is depleted. But every local state must take steps to insure the continued economic value of its land.

The cases of transportation and natural resource extraction imply that changes beyond community control determine local land values. To some extent, that is true since no community is totally autonomous. But communities can exercise considerable control over future land uses and therefore land values. The local state can determine land uses to a great extent through planning future land use patterns; exercising the power of eminent domain; regulating the size, type and use of construction; and through discretionary provision of public services. The location of roads, streets, highways, sewers, gas lines, bridges, tunnels, parks, and schools all impinge on future land uses and land values.

The public investments which shape future land uses and land values are immobile. They cannot migrate to another community as other factors of production can. Rather, they create a magnet for attracting and retaining labor and capital needed for production. Many students of community politics note that land is the focal point of local politics. It cannot be otherwise because land is the economic resource over which the local state exercises greatest control.

Labor

Skilled workers are relatively scarce in the labor force, a situation which allows them to demand higher wages. They also are concentrated in firms and industries where innovation is occurring through research and development. This gives the firm monopoly power of the early lead in a new industry and the higher profit margins are passed on, in part, to labor. Skilled labor is not only better educated but generally more intellectually agile and constitutes a resource to the community in noneconomic arenas.

There are options local states can use to enhance their ability to retain and attract a skilled labor force. Through zoning laws they can ensure adequate land for middle-class residences. They can build and maintain parks, recreation facilities, high quality schools, and adult educational programs. Provision of public services seldom used by middle class residents can be kept to a minimum or eliminated and thereby reduce the tax burden to skilled labor. Lowered taxes can be translated into a higher benefit/tax ratio for skilled workers (e.g., increase their real wages) and thereby increase the competitive position of the community in attracting and retaining them.

This strategy of public investment is rational from the perspective of the local state's interest in community economic vitality, i.e., maintaining or improving its economic position. It also coincides with the economic interests of middle-class workers. However, this market-based strategy largely ignores the interests of unskilled and semiskilled workers.

To maintain equity among classes under the conditions of a market-oriented public economy it is necessary for the national state to assume responsibility for the redistributive function. For the local state, operating in a market economy, it is irrational to adopt policies which increase the benefit to tax ratio of taxpayers who already are above the average ratio: the poor, the handicapped, and the dropouts. To a degree equity becomes a function of both the national and local states, but the national state is the dominant partner. It sets the rules for competition among local states which have considerable flexibility in responding to those rules or pushing them further. The constraint for the local state is it cannot exceed the 'national norm' of equity without making itself less competitive relative to other communities. Only within the limits of the national state's rules do local attempts to redress inequitable outcomes of the market not enter the realm of intercommunity competition.

Capital

Unlike nation states, local states have very limited tools with which to control the flow of capital into and out of their territories. Tariffs, price and wage controls, monetary policies, and deficit spending are mechanisms reserved to the national state. Therefore, communities are left largely to the use of devices which minimize the local cost of capital investment in enterprises within their territories or to create investment opportunities and thereby generate a competitive advantage.

Cost reduction is the strategy most often pursued by local states. They can reduce the tax burden for firms by minimizing public services, especially to taxpayers with above average benefit/tax ratios and non-taxpayers. They can offer public land at a discount price or perhaps free of charge. They can provide tax holidays where law allows such practice. They can exempt or discount the assessment of real property: land, buildings, machinery, and equipment. They can reduce or ignore regulations such as safety and pollution codes (Reagan's Enterprise Zones). Such public subsidies can attract capital to the community but the extent to which the local state can reduce costs to capital without jeopardizing its economic vitality in the long run is a matter of considerable debate.

CONCLUSIONS

Many of the social facts addressed by the Smith-Lever Act of 1914 and Roosevelt's New Deal legislation still existed in mid-century America. During the period of the New Deal, efforts of the Federal Government to cope with the problems of rural communities reached a new zenith but these programs were given low priority during the war years. Even though Truman served notice that he intended to extend the reform programs of the New Deal, his efforts produced few tangible results in Congress. The "Cold War," the Korean war, and a coalition of Southern Democrats and conservative Republicans blocked Federal efforts until the 1960's.

By 1960 there was a heightened public and governmental concern with issues of civil rights, poverty, environmental quality, and urban congestion. The big-city racial riots of the mid-1960's made plain to everyone the obvious causal connection between the decaying central cities and the problems of rural America—specifically the circumstances stimulating the rural-urban migration of poorly educated, black and white persons. Thus, in 1961 Congress passed the Area Redevelopment Act to provide capital to problem areas in the form of low-cost loans to industry, and loans and grants to communities for upgrading infrastructural support for new industry. This was followed in 1964 by the Economic Opportunity Act designed to attack poverty. The Appalachian Regional Commission was established in 1965 and the Economic Development Act of 1965 created several additional regional commissions and funded a variety of economic development efforts in rural areas coping with high rates of poverty and unemployment. The Rural Development Act of 1972 and the Rural Development Policy Act of 1980 provided still further assistance to small communities.

Throughout this period of legislative activity it appears the underlying assumption was that rural poverty and the urban crisis were the products of a spatial mismatch of labor supply and demand. Earlier efforts to deal with the labor market disjuncture by encouraging rural-urban migration apparently had only exacerbated the problem. The obvious alternative, within the limits of a market-oriented economy, was to encourage capital mobility to rural areas where it could be put to work creating jobs, raising incomes and strengthening the fiscal base of local government. The implementation of this Federal intervention strategy generated a decade of rural industrialization, an associated growth in the service sector of rural America, and a "population turnaround." It also created an elaborate and extremely complex matrix of interdependencies among State and Federal Governments, the private sector, and communities.

Today, rural community development needs a sociology that maps these relationships and which provides explanations for changes in them over time. Sociologists have a crucial role to play: it is to construct a proper sociology of community.

COMMUNITIES LEFT BEHIND—AGAIN

By Kenneth P. Wilkinson *

Three trends in the United States since about 1980 call attention to persisting problems of rural communities in an urban-industrial society. First, after a brief turnaround in the 1970's, migration patterns have restored the dominant historical trend of greater urban than rural growth. While population growth measures only one characteristic of a community, the rural-urban difference on this measure is perhaps the best single indicator of the relative abilities of different types of communities to meet the daily needs of their residents. Second, as the promise of a sustained turnaround faded in the late 1970's, familiar rural problems began to surface again in research findings and news reports: problems of poverty and underemployment; a crisis in the financing of agriculture; inadequate services and a deteriorating rural infrastructure for development; social and economic inequality; and problems of family and community cohesion. Third, even as the evidence of rural problems has accumulated, observers have noted an absence of sustained efforts to understand and eradicate the causes of these problems at the national level. Many rural people and communities are being left behind in the 1980's just as they were said to have been left behind in national reports on rural poverty and other problems before the abortive turnaround of the 1970's.

Why? What can be done to close the rural-urban gap that seems to be widening again? Answers require an understanding of reasons for the rural-urban gap in the United States and of implicit trends that can be cultivated by policy to promote improved rural well-being.

REASONS FOR THE RURAL-URBAN GAP

Historically, people and communities in rural America have been left behind because rapid economic growth has been concentrated in large industrial cities. Displaced by advances in agricultural technology, rural workers and their families migrated to cities by the hundred of thousands to take advantage of industrial jobs; and those who could not do so, literally were "left behind." As the national economy became predominantly industrial and the culture became essentially urban, many small communities found themselves at a disadvantage in meeting needs of residents. A small, localized economy no longer could be self-sufficient. Larger numbers would be needed to justify and sustain modern community services and facilities. Residents would have to commute to distant centers

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for jobs and services, or they would have to make do with the lesser resources available in the rural setting. Sparsity of settlement and distance from the centers of economic development and power produced a rural condition that the sociologist/economist Carl Kraenzel (1980) labeled "the social cost of space."

The phase of concentrated growth of large cities was followed, beginning in the 1950's, by a period of metropolitan expansion, as the economic and political power of the centers began to be used to organize and manipulate resources in the surrounding countrysides. Suburban development of housing, satellite developments in industry, and other aspects of this expansion drew many small towns and rural areas directly into large urban fields. Beyond these fields, in what Kraenzel calls the "Yonland," the cost of space became even greater.

The cost of rural space has a number of dimensions. One is an unstable economic base, as shown by recent events in agriculture and in the manufacturing industries that have developed in rural America. Another is the limited range of services that can be supported in public or private sectors. In addition there is evidence that rurality depresses the ability of a local population to organize for effective collective action, in contrast to the image of close-knit rural communities acting together for the common good in times past.

According to sociological studies early in the twentieth century, physical isolation in rural areas often was offset by the social cohesion of local social life. One could be in a remote locality and still be deeply embedded in supportive family and community networks. Studies today give a different picture of the effects of rural physical isolation. As local residents have come to be more dependent on outside contacts for meeting daily needs, and as the ability of community institutions to hold local commitments has declined, physical isolation has come to predict social isolation as well. Isolation is cited in several recent studies as a contributing factor in explaining relatively high rates of rural suicide, homicide, and psychological distress.

Observations by social scientists on rural changes in the 1970's, however, suggest that the conventional explanation of the social cost of space gives an inadequate explanation of what has been happening in recent years. Density and distance continue to have important effects, but at least two other factors need to be considered.

One is a change, noted by human ecologists, from the period of metropolitan expansion to a new period of more widespread urban development. Amos Hawley (1978) refers to the new period as one of "diffuse urbanization." Growth is occurring in centers far removed from metropolitan fields. New technologies in communication and transportation make this possible, as access to metropolitan resources comes to depend less on physical proximity than on the potential for other forms of contact. These technologies promise to reduce the drag effect of distance on rural development, but they also greatly increase the potential for exploitation of rural labor and other resources.

The other crucial factor emphasized in recent discussions is the tendency for profit-seeking firms to move into and out of rural areas, taking many of the benefits of development with them but leaving many of the costs of development to be endured by the community. Although exploitation of rural resources has a long history (e.g., in mining and lumbering areas), the new technologies—along with the newly emerging pattern of diffuse urban development—can greatly increase the potential for this phenomenon to have widespread effects on rural well-being.

With new information technologies, firm managers can coordinate the flow of resources among areas on a national scale rather than merely within the hinterland of a given center. This might increase rural access to outside resources but at the cost of increased vulnerability to investment decisions that are intended to generate profits and not necessarily to assure the well-being or stable development of the rural communities in which the profits are generated.

Rural dependency on mobile outside investments has several more or less obvious consequences. As the investments come and go (in search of profits in national or world systems), so do the jobs and incomes of rural workers. Local economic instability can result from concentration of a single sector of a production process in a given rural community, a common practice among multi-site firms. This makes the community vulnerable to shifts in the importance of the sector in the firm's overall operation; and it limits the diversity—and thus the stability—of the local economic base. Dependency also increases the probability that profits will leave the community quickly.

Thus, the new space-shrinking technologies represent a double-edged sword for rural development. They offer to bring rural areas into the mainstream of modern economic life, but they also encourage rural dependency on a complex system dominated by highly mobile, self-seeking actors. What the effects of these potentials will be is a most important question for research and policy.

CLOSING THE RURAL-URBAN GAP

The Federal Government has a key role to play in closing the rural-urban gap because the most serious problems of rural America are rooted in national and regional systems. Two problems deserve special attention at this level. First, programs to stimulate rural economic development are needed to address the spatial inequalities that have resulted from previous patterns of urbanization and industrialization. Second, national leadership is needed to make sure the rural benefits outweigh the rural costs of newly emerging trends based on technologies of long-distance communication. While action clearly is needed at the national level, the heart of the national strategy should be to encourage community development in small towns and rural areas.

Community development refers to the process of increasing the capacity of a local population to pursue its own interests through effective collective actions. This should not be confused with developments in the community which do not develop the community as such. Economic development without community development, for example, tends to be exploitative and divisive; but, when pursued as a strategy of community development, local economic development can enhance social well-being. As many studies suggest, the community, if able to act in a concerted fashion on matters of common local interest, is the best possible defender and promoter of local welfare in negotiations with the larger society.

Where community development occurs, the local population can assert a considerable amount of influence over its own well-being. Outside investments can be recruited selectively to meet the needs of local residents. Developments in one sector can be linked purposively to developments in other sectors to encourage a balanced, holistic process of growth. The processes of collective action that express common purpose and identity also can serve to reinforce the base of democratic equality on which community development rests. Moreover, through community development, the locality can act on its own behalf in responding to the new challenges and opportunities associated with increased contact with the larger society. The central goal of a policy of rural development, therefore, as well as the essential strategy of promoting rural well-being, should be to increase the probability of community development in rural areas.

Community development, however, requires certain conditions that tend to be lacking in rural areas today, and these deficits are contributing to the phenomenon of rural communities being left behind again.

One serious deficit is in the local economic base to meet daily needs of people. The importance of this is shown in evidence that the ability to mobilize for collective action tends to increase as the local resource base expands, at least up to a minimal threshold where local people can identify the community as a relevant unit for meeting their needs. Community development also requires a more or less complete network of local groups and services for expressing the interests of a population. Otherwise, the population tends to travel to other sites for many of the more or less routine activities of daily life, thus weakening the probability that the sense of community among local residents will grow and be translated into effective community actions. Research in rural areas shows that travel over a large territory is a more or less typical pattern, although the findings also show that identification with the place of residence can persist among people who spend relatively little time in the place where they identify themselves as "living." Community development also requires equality, and rural areas tend to be characterized by relatively high levels of inequality. These impediments to community development within rural areas are results, in large part, of the inequalities among areas produced historically by patterns of urbanization and industrialization in society as a whole. Intervention is needed to address these impediments and to free the latent potential of rural communities to promote their own well-being.

The first step in an effective rural development strategy, therefore, must be to increase jobs and income to undergird community development in rural areas. A second step, however, is equally important. An effective policy must insist that rural economic development be directed explicitly toward community development rather than simply toward development of profits in a rural setting. For community development, this means increasing the resources available to rural people, encouraging diversity in local developments, insisting upon equality of participation in the development process, and promoting community development in other ways.

Case studies give vivid descriptions of instances in which economic development has failed to promote community development. A frequent case is one in which an elite segment of the local population, acting under the guise of a community-improvement program, conspires with outside firms and agencies to implement local development plans that will benefit only the elite grouping. Another is the case of desparate action by local (or sometimes by state) authorities to attract employers with promises of concessions that ultimately will produce negative effects on local welfare, outweighing the positive effects of employment. Perhaps the most common case is one in which economic development occurs without planning for related developments in housing, municipal services, human services, and so on. The literature also describes situations in which exploitative practices of development firms in rural communities are masked, at least superficially, by investments in symbols of community solidarity such as teams, monuments, and fairs. An effective policy of rural development must promote economic growth through outside investments, but it must, at the same time, guard against the pseudo-forms of community development described in many studies.

The pattern of diffuse urbanization noted recently by human ecologists and the impressive new information technologies represent potentials that can be cultivated to promote rural community development. Diffuse urbanization means, in one sense, that the old urban hierarchy which has limited rural welfare is breaking up. If this is the situation, rural communities face a more fluid and flexible array of opportunities than provided in the rigid ordering of places in the past. Development can occur and apparently is occurring in the countryside, although not as dramatically as in the early 1970's. The possibility persists that aggressive policy action at national and state levels and aggressive local action can have decided impacts on the spatial distribution of economic resources and services. The key to cultivating this possibility is to promote local community development in rural areas.

The promise of the new contact technologies likewise can be brought to fruition through decisive policy action. While these technologies are products, in large part, of the efforts of firms and agencies to meet their own goals (e.g., to hasten the mobility of profits to centers of accumulation), they can be of obvious benefit to rural communities if understood and used in a program of community development.

As Don Dillman (1985) has pointed out, the new information technologies can have negative effects on rural communities if, for example, individual ties to the outside reduce the significance of local relationships in meeting needs or if, as seems to be happening in many cases, rural communities are "wired last" for the information era. Positive actions are needed to counter such negative potentials. Community centers could be established, for example, to facilitate and integrate new information linkages to the larger society. A community center, operating perhaps through some existing local facility such as a public library, could counter the tendency for individuals and organizations to be separated from one another as they establish their separate information linkages to the outside. Development programs also are needed to provide the facilities, equipment, and skills rural communities need to take full advantage of the newly emerging opportunities in the information era.

CONCLUSION

The communities being left behind in rural areas today could be far behind indeed tomorrow. Many of the same trends that threaten rural welfare, however, could be used to enhance rural welfare. Policy intervention is needed to close the gap in well-being between rural and urban areas. Community development is the prescription for countering the trends that are causing rural communities to be left behind again.

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RURALITY, COMMUNITY, AND SERVICE DELIVERY *

By H. Max Miller **

Many people have a perception of rural America that can be descriptively labelled as the "Funeral Fan Fantasy." This vision conjures up images of neatly tilled and cultivated fields of grain and row crops, green forests with an uncluttered landscape, and a small town at the focal point of this peaceful setting. The clock on the courthouse cupola, the flag flying in the breeze, the church spires, and the schoolhouse bell, though slightly blemished in shape and blurred in form, are still plainly visible. The scenario is complete with a picturesque glimpse of main street and its local businesses and plain, but smiling local citizens. In order to visit this "fantasyland" rural America, one needs only to take a few steps over the city limits of Metropolitan Anywhere, U.S.A.

Along with this idealistic vision of the potential for "good" are the creeping shadows of forces or things that are "not so good" lurking just over the horizon. Problems involving level of employment and family income, quality of life, lack of community services, and foreclosures on family farm mortgages are ever present "somewhere" but are never quite real anywhere until disaster levels are attained. At this point, however, there is comfort and solace in the belief that rural America and its people have always persisted through all orders of diversity and will, hopefully, continue to do so. There is also the comforting rationale that, even if times do get "hard," rural residents are better off than they would be if they lived in cities.

A deeply rooted reinforcement for this conception of rural America exists in the ideology of Jeffersonian democracy. The basic tenets of this agrarian ideology involve first, the time honored, though somewhat impractical, assumption that agriculture is the basic occupation of mankind; second, that rural life is somehow morally superior; and third, that small, independent farmers are the proper basis for a democratic society (Hassinger, 1978).

As the range of contemporary farm enterprises (subsistence, part-time, commercial-corporate) increases, the part of this ideology that fits the situation for differing enterprises tends to be applied. The commercial agriculturalists placidly assume that agriculture is the basic occupation and that the remainder of the economy rests upon an agricultural foundation. Those in subsistence level agriculture can take satisfaction in the virtues of rural life (Hassinger, 1978).

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The point being made for policy purposes is that a practical definition of the concept of "rural," rather than mixing the ingredients of fantasy and myth with a touch of reality, should be based upon more objective criteria. These criteria should include consideration of the management of natural and economic resources that lie outside metropolitan areas along with the characteristics of groups and the relationships among them and their relationships to the larger society.

Even the most rural resident lives in a mass, industrial, urban society. Society is defined as the most inclusive unit of human organization which encompasses the major institutional components of a distinguishable population aggregate. Assuming this definition, a society has boundaries, a renewable population, a minimal normative consensus and the integration of social interaction at the societal level. Not all individuals are brought into ordered relationships with others in large societies. Instead, interaction takes place within groups and the society is composed of interrelated groups forming a single system. Within the society, group conflicts may arise, but this too constitutes interaction and is part of the dynamics of society. Finally, the society represents a high degree of closure and completeness as a social system. (Bates, 1972; Hassinger, 1978).

The point is that rural society in the United States does not represent a complete social system, but functions as a part or component of the total social system. Rural groups that represent different institutional areas are inextricably related to groups outside rural areas. Rural America from this perspective involves individuals interacting in communities located in the nonmetropolitan counties in the United States.

The rural community is a meaningful social unit for rural residents and people living in the same geographical area who share local institutions and services. The rural community can be considered as the most inclusive organizational unit of the rural sector of American society. The existence of patterned social interaction within and among groups in rural communities takes place in primary groups where relationships tend to be intimate and informal. Formalized groups in the rural setting have many of the characteristics of primary groups and often merge, or, are intertwined with informal group networks in the community. Many of the interaction patterns and group structures that assist role functions and assure meaning for members of the rural community do not exist for residents of urban communities.

A brief examination of the concept of community along with a specification of structural and organizational aspects that characterize the rural community is appropriate at this point.

The position taken here is that the social facts of which communities are constituted are the relationships between the various special interest groups and organizations that make up the division of labor in a community. There are two basic types of "between-group" relationships that should be explained (Bates and Bacon, 1972).

The first may be labelled as exchange relationships and exists as systems in which individuals, groups, and organizations exchange specialized goods and services needed to carry out necessary role functions of primary groups. These systems exist out of the need to acquire goods and services necessitated by the division of labor in society and are sometimes called "interstitial" groups since they connect the basic units in the division of labor to every other unit so that inputs and outputs can flow between them. Exchange relationships that are conducted through "interstitial" groups in the performance of role functions for the primary group are, thus, quite different from special interest primary groups. Primary groups such as the family, kinship groups, cliques, locality based groups, and voluntary associations serve as the nexus for patterned interaction within and between groups in the community.

Membership and participation in primary groups (i.e., family, kin, etc.) in rural communities remain quite high and provide socialization, information exchange, and social control for members of informal groups (Hassinger, 1978). Members of these social networks in rural communities (rural residents in general) often have the potential of exercising greater control over the exchange of goods and services through their knowledge of local exchange systems and their increased familiarity through personal interaction with the principal parties involved. Through participation in informal groups and through "neighboring," bartering and trading, and by the possession and control of the commodity of "time," goods and services are often made available and attainable. Customary norms and expectations often guide the exchange process and insure reciprocity at this level. As a local leader in a North Georgia county recently explained when asked how anyone could live on a ten thousand dollar annual income, "Ten thousand annual income buys a 'helluva' lot more here than it does in the middle of Atlanta."

It is suggested that much of what is loosely referred to as "service delivery" (both private and public services) is carried out through informal networks of personalized social relationships that exist among residents of rural communities.

A second type of relationship found at the community level is coordinative in nature. The function of coordinative relationships is to manage potential conflict and to coordinate activities among formal groups in the community. These community based groups have the distinctive feature of being purposively organized to achieve goals. Although there is much variation in their organizational complexity and function, it is through these specific activities that competition and potentially conflicting action takes place and is managed. Power, although gained in various ways at the community level, appears to be exercised primarily through coordinative relationships (Bates and Harvey, 1975; Nix, 1977).

In order to maintain identity and existence, formal groups must pursue meaningful goals that require resources from the community. Existence is usually justified by group contributions to the general well-being of the community. In the pursuit of organizational goals, there is the necessity of establishing exchange relationships with other specialized groups for their mutual benefit. This means that there is likely to be competition and potential conflict among formal groups. Interorganizational coordinative interstitial groups possess the distinguishing feature of managing competition and conflict and it is in this regard that coordinative groups are formed and function at the community level.

Many structures, such as trade associations or Chambers of Commerce, serve as examples of coordinative community groups. In rural communities, the number and complexity of coordinative groups is limited by the size of the population aggregate. The membership of coordinative groups often overlaps or corresponds with informal group structures and leadership is often dispersed and broad-based within the system.

As geographic service areas have increased and as trade centers compete with other trade centers for institutional service functions, local neighborhoods and subcommunities have become less autonomous and more interdependent. At the intercommunity level, mechanisms for conflict management can be identified as well as the other mechanisms that serve to establish and maintain linkages of vertical integration with the mass society.

Rural communities are positionally located at the greatest distance, politically and economically, from the center, or core, of the social system. In terms of control of economic exchange and marketing functions, rural communities are located at the periphery. This does not mean that rural communities or their residents are isolated, but it does mean that they fall near the borders or the outer boundaries of the system. Through mass production and transportation systems, through advanced technology in the services and through the mass communication media, the economic products of this society are made available to all members of American society and, therefore, the problem is not one of isolation, but one of structural distance from the core of this social structure. There is, thus, a dependency factor that exists for the rural community and its residents. Dependency, in this sense, implies dependency as opposed to self-sufficiency.

For the past century rural leaders have dreamed of the day when the "Funeral Fan Fantasy" would turn into reality. Each community (trade center) would possess the full complement of the most technically advanced public facilities and services (hospitals, schools, law enforcement, and fire protection) available. This is not in the structural cards for the State of Georgia or for other States with sizeable nonmetropolitan areas and populations because of the way complex industrial societies are structured. The "facts of life" are that the nature of the division of labor in advanced industrial societies makes this extremely unlikely, for in order to do so would entail the sacrifice of economies of scale and paying the full cost of the advanced technology at the local level which is associated with the rendering of public services today.

The economic future of the State of Georgia is clouded by increasing differentials between the rural and urban sector. It is estimated that 70 percent of the growth in the last ten years has been within 100 miles of the State Capitol in Atlanta while other, mostly rural, areas have remained stagnant or have declined and are losing paying jobs, people, and viability.

Daily news contains reports of plans to help save the land of farmers in rural counties and of other economic and social problems faced by residents of rural counties. The daily news also carries reports of new industries and other economic developments that create new businesses and jobs and serve as indicators of growth and prosperity in the state. The location of this so-called "Sunbelt Harvest" is seldom in rural counties, but is most often in metropolitan center(s) of the State. The bustling development and thriving communities that one notices when traveling into the metropolitan areas provide visual proof of prosperity and growth. When traveling the state roads of rural Georgia, visual inspection of the many small towns and trade centers of the numerous rural counties conveys the message that there is "cause for concern." The picturesque small towns and trade centers, which, in a former day were bastions of independence and rurality, often give an impression of stagnation and decline rather than one of boom and prosperity.

All indicators of social well-being and economic growth serve to verify the widening disparity between the rural and urban sectors in the State of Georgia. In rural counties of the State, between 19.5 and 40.7 percent of the people live in poverty while the State's urban counties evidence only 5.3 to 15.2 percent of their population below the poverty level (University of Georgia Extension Service, 1985).

Current research on service delivery in Georgia, as undertaken through the auspices of the USDA Regional Project S-158 "Improving Technology for Community Services in Non-Metropolitan Counties in the South," indicates that public services (health and welfare services) are insufficient or, for all practical purposes, are meaningless to residents of sample counties in the study. Client expectations are often incongruent with service agency goals and often tend to be a source of conflict. Information on the availability or location of specialized services is often lacking for clients at the county level. This situation shows little promise of improvement until local leaders and urban based policy makers accept the reality of interdependency that exists between the rural and urban sectors in Georgia and in American society.

Pointing out the need for a more realistic conception of rurality and describing the unique organizational features of rural communities and their structural placement in relation to the core of the social system provides a basis for an approach to many of the current problems confronting rural America.

The time is ripe for local county officials and leaders to accept the fact of interdependency and begin to develop delivery systems that take advantage of what is available. Immediate steps need to be taken that will provide specialists who understand service delivery systems and who can bring services and people together, even if it means taking the people to the services rather than bringing services to the people. Information systems that will assist clients in obtaining knowledge of services and information regarding eligibility requirements as well as information on regional office locations is needed at the rural community level.

Many organizational features of information groups in rural communities are quite conducive to the development of voluntary associations or other organizations that can serve as a constructive force in service deliveries. Resource personnel such as extension specialists and university service personnel or planning and development specialists are invaluable resources to rural communities and could, in many ways, facilitate the planning and implementation of programs designed to get "people and service" together.

There are many types of public service that can be very effectively provided at the county level. This category of community service needs to be clearly defined and actively pursued by the utilization of available social and economic resources. However, the time and resources expended in the search to obtain funding for the provision of more specialized services may be more purposively spent in efforts to assist local citizens in getting to area or regional service centers.

Many public services are no longer cost effective and are inefficient in their current delivery systems in rural areas. These types of public services tend to be located primarily in area or regional service centers. For those public services that exist at this level, let's take the people to the services. In the case of public services that, of necessity, must remain in the local setting, let's take the services to the people. Both goals can be purposively attained through the involvement of individuals, groups, and organizations who specialize in bringing people and services together at the local community level.

Finally, let's not forget to ask assistance from our urban neighbors.

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SOCIAL POLICY, SOCIAL SERVICES, AND THE RURAL WAY OF LIFE

By Nelson Reid *

Throughout much of this century of urbanization the rural, farm based life has held a certain mystique for many Americans. Despite the strain of popular literature, often reflected on television, that holds small towns to be oppressive places often run by a ruthless sheriff on behalf of a seemingly beyond-any-law local magnate, the small town, agrarian based life is commonly thought to be the good life. Strong families, good neighbors, honest work, shared values, and a human face and scale to social and physical aspects of life are the elements of this good life. Recently there has been a spate of books and films which express quite directly this longing for the promise of rural life: Keillor's *Lake Wobegon Days*, and films like *Places in the Heart* and *The River*, express the idea that some quality of human life and relationship exists in the country which has been lost, or suffocated, in the city.

The recent renaissance of interest, and romance, regarding rural life is undoubtedly related to economic decentralization that has promoted the nonfarm resettlement of smaller towns throughout the country, and to higher levels of affluence which have allowed many to indulge their dreams of owning property "in the country". Perhaps it is also due to reaction to changes in urban life—the changing ethnic composition of cities, declining political and cultural influence of WASPS, declining urban industries, the family consequences of two-worker households, street crime, the passing of the neighborhood school, etc. But rural life was regarded with reverence even before such developments. In 1930, the Southern Agrarians published *I'll Take My Stand* to a large and appreciative audience. The book extolled the virtues of a land-based social order and called for law and social policy to be used in preserving that social order. While *I'll Take My Stand* is regarded now as having more literary than social policy merit, it struck a responsive cord in many, and not only in the South. But no widespread agrarian political movement developed. The depression shifted the issues, and the answers, inexorably toward Washington; and the issue of race, so bound by history to Southern agriculture, clouded any call for the beauty of agricultural life to be recognized and promoted as ideal.

But much of what the agrarians said, and much of what they wanted, would fit with what the modern rural romantics write. One of the original Southern Agrarians, Andrew Lytle, regards, with evident regret, the lack of political influence of Agrarian ideas:

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> We were trying to stop something we felt boded no good for our kind of life, which had once been (and still was, to an extent) the dominant kind of life for the entire country. Family and neighborhood made the world we inhabitated. Travel through the countryside today and you will find it empty. People dwell there, but as individuals, except in certain stubborn and traditional pockets. They do not compose a community. Travel to the towns and small cities and they all look stamped out of plastic. They differ mainly in size. The outskirts hold flat buildings of assembly plants owned from afar; more sinisterly, factories dealing in chemical poisons pollute the countryside. People as well as towns are beginning to have an anonymous look. Underneath, not quite covered but crowded out of any meaning, like General Lee's house in Richmond, relics of the past stand. They will stand for a while, until the ubiguitous bulldozer or that flinging ball pushes them into some trash heap . . . So the Agrarians failed. They could not believe that their way of living would disappear. Well, it has (Fifteen Southerners, pp. 224–25).

The extent of that disappearance is reflected well in census data. In 1930 when the Agrarians were writing, about 30 percent of Americans lived on farms and nearly 50 percent lived in rural areas. The decline in farm-based population had begun to be apparent by 1930, and it has been relentless since; currently there are less than 1.6 million farm families only slightly more than 2 percent of all Americans. Nonmetro areas did grow faster than metro areas for the first time in the century, between 1970 to 1980, but this nonmetro increase suggests no renaissance of farms or rural life as we have known it in the past. It is a reflection of economic decentralization and the growth of jobs, once linked to major urban areas, in nonmetro areas most of them near metro areas, or along interstate highways.

What has happened is this. The effects of agricultural productivity increased due to mechanization, the economy of scale available in larger farms, the extension of agribusiness concerns to field production, the internationalization of agricultural markets, and the growth of service and manufacturing aspects of the economy have together simply devasted a social system that gave birth and sustenance to a great many older Americans. That devastation is not complete, however, for it quite apparently lives in the hearts, the literature, and the mythology of their children.

Some of those children having experienced the changes in economy, communication, and transportation that allows the resettlement of many rural and small towns are itching to recreate the sort of stable, wholesome, personally satisfying life they imagine was a product of rural existence. It will become, of course, not so much a life as a "lifestyle," complete with a rediscovery of rural-based architecture, mini-farms, clothing from L.L. Bean, and a Jeep Wagoneer. No social policy or planning seems required here, the market having demonstrated its remarkable capacity to respond to such tastes. Those who find themselves less self-consciously in the "country," because the service or manufacturing concern they work for now is there, may derive some benefits from the reduction of scale in comparison with "city" life, but they will surely not experience the agrarian social order of the past.

PAST POLICY DIRECTIONS

The issue for social policy is not then the preservation of a social order thought to be better for body and soul. The Agrarians were surely too late in 1930, not recognizing that the ideas of free men and free markets had given rise to economic and social development which would inevitably chase out tradition and community as they knew it and loved it. The issue is not preservation, partly because there is precious little to preserve, and partly because such efforts (and examples surely abound) inevitably come to grief and require ever increasing government power or manipulation to maintain. Many argue, often successfully, that the centerpiece of governmental policy for agriculture in the U.S., commodity price supports, is another failed effort to protect the interests of people involved in a "traditional" occupation from the realities of the farm economy. The result has been to sustain too many farmers on too many farms producing too much, with the result that the true market value of farm products is far below that sufficient to maintain the subsidized production system that creates them. While some agriculture subsidies seem inevitable, it would seem that economic and political reality has caught up with the large scale programs that were so initially successful during the 1930's in increasing farm income. The result will be continued decline in "family farms" and continuing decline in the social distinctiveness of agriculture and rural life.

Distinct from commodity price supports, much social programming relative to rural areas has been concerned not with preservation but with extending urban-like amenities and economic development (and the consequent social organization) to rural areas. From the 1908 Country Life Commission of Theodore Roosevelt and its emphasis on paved roads, to the Rural Electrification Administration of the 1930's and through the Rural Development projects of the '60's and '70's the intent, and effect, of social policy has been to reduce the tangible differences between rural and urban people and their welfare. Indeed, the improvement of the quality of life in rural and small town areas in ways that city folk can understand is certainly one of the forces in the current attractiveness of these areas. Things as basic as good roads, postal service, sewer systems, water, recreational areas, and housing reasonably comparable to urban standards, are in large part the product of public rural development programs that through various governmental means extended these things to the rural areas.

In the earlier part of the century, the emphasis was upon direct provision of publically funded services (and in 1985 direct federal expenditures for such services in nonmetro areas will exceed $15 billion). Toward the latter part of the century, the policy emphasis has been somewhat more on economic subsidies, education and training programs, and loans for housing and business. These efforts combined with developments in social security, food stamps, medicare, and medicaid have substantively made more equal the material aspects of urban and rural life.

Thus, it has not been the purpose of social programming in rural areas to preserve nor has it been to create something dramatically new. With the exception of some rather ambitious Farm Security Administration co-op programs in the 1930's, and some small scale cousins in the War on Poverty years, there has been little effort to create "new" rural communities or recreate agricultural villages. The emphasis has been largely one of adaptation—to address the problems of rural areas and usually the obvious and material ones—in pragmatic, often rather incremental ways. This policy direction has not been infused by an overarching ideology or utopian dream. It is likely, in the absence of some large scale "folk-environmental" political movement, that such a policy direction, common with other areas of social concern in the U.S., will continue.

THE PROBLEMS

The sort of problem specific, incremental pattern of social policy development that has characterized our approach to rural problems is motivated by the combination of reasonably apparent social problems, which can be easily "marketed" through political and mass media processes, and a constituency of potential recipients, service providers, or both. What then are the problem areas in which these forces are likely to most apparent, and what sort of social programs, and especially social services, are most probable? The problems, and associated service areas, most apparent fall into one of three evident categories: (1) changes in the employment base in rural areas; (2) changes in population characteristics; and (3) changes in the population composition of small towns and consequent changes in "community consciousness" and local politics.

EMPLOYMENT BASE

It is abundently evident, but not uniformily so in every part of the U.S., that the character of agriculture has changed dramatically. In 1930 the rural farm population of the U.S. exceeded 30 million and the rural nonfarm population was less than 20 million. By the 1980's approximately 6 million lived on farms and the nonfarm population was approximately 55 million. In the South in 1930, there were 3,422,000 farms (182,000 owned by blacks) but by 1980 less than one million farms (only 60,000 owned by blacks). Nearly 17 million people in the South lived on these farms in 1930 which is nearly three times the number of persons on farms in the entire U.S. today. These changes are due to the inexorable progress of farm productivity which, over time, dramatically reduced the labor needed in agricultural production and increased economies of scale that allowed both consolidation of farms and reduction in farm acerage. The socially disruptive consequences of these changes, much encouraged by Federal farm policy (most especially price supports which subsidize land owners but not farm laborers) were somewhat mitigated by the general prosperity of farms, especially in the midwest, which allowed local service economies to develop, the development of small-town manufacturing in the South, especially textiles and furniture, which offset loses in farm employment, and the steady outmigration of förmer farm workers, especially blacks, to metro areas. However, the profitibility of farming in many critical production areas has been dramatically reduced in recent years by a number of factors, including change in government policy. The once labor intensive manufacturing industries of the South are now less so due to technological advance and are suffering from the internationalization of their markets just as farmers suffer from the inevitable shift of production to outside U.S. borders. Whatever advantage the South may have had, for example, in lower taxes and wage costs relative to the northern U.S., certainly disappears in comparison to Mexico, Japan, or India.

The consequence of this is that job opportunities increasingly concentrate in metro or near-metro areas. A recent study by the Southern Growth Policies Board found that in the South generally nearly 70 percent of jobs are in metro areas, with States ranging from a high of 85 percent (Florida) to a low of 25 percent (Mississippi). The differences State-to-State may reflect the rather variable pattern of metro development in Southern states, and consequently overstate the variation, but the general point is quite clear.

The social service implications of such changes are rather apparent. Large numbers of people living in rural areas and small towns will experience potentially damaging disruptions to their lives. Social services related to resettlement, job retraining, and job finding have proven effective in some cases both in the U.S. and Europe. People with long term identities tied to place and occupation are especially sensitive to the sort of social changes occuring in rural areas, as the special sort of counseling now being provided by the Agricultural Extension Services in North Carolina and other States demonstrate well. But it is important to keep in mind that economic change is not new to the U.S. or its people. Such changes have occurred before and they have produced large scale dislocations. The sort of large scale dislocation of farm workers, many of them black, in the Depression, and as a partial result of price support policies which removed land for production, is undoubtedly related to the high incidence of female headed black families and the so called "underclass" of unemployment prone, urban based black males. These are problems of the highest order with grave personal and social consequences, the cost of which is becoming increasingly apparent. One cannot help but wonder if some effort was made to moderate the forces producing migration and some selective supports given at the time might have prevented the social effects of what the historian Guttman refers to as a "modern enclosure movement".

POPULATION CHANGE

The economic changes in rural and small town areas, of course, have implications for population change. Because of the concentration of job opportunities in metro areas nonmetro areas would tend to have somewhat higher concentrations of persons both younger and older than working age. This is especially apparent among the elderly: 11.3 percent of the U.S. population is 65 or over but over 13 percent of the nonmetro population is elderly. The concentrations in particular regions, perhaps, tell the story more clearly with 43.4 percent of the nonmetro elderly living in the South and 32.6 percent living in the North Central region. The presence and importance of the elderly will, of course, increase in both number and proportion nationwide but in addition there is evidence of older persons migrating from metro areas to rural and small town areas over the past two decades. Most of this movement is among the "younger" aged (60 to 74) for the obvious reason that age beyond 75 years usually involves health problems and widowhood and a desire to move closer to children and health services, both likely concentrated in metro areas. The elderly in nonmetro areas are more likely to be poor (21.3 percent in poverty) and more likely to have chronic health problems, according to a recent report of the National Center for Health Statistics.

The social service implications of such a population pattern involve the necessity to tailor social services at the local level to the special needs of the aged. This may involve greater emphasis on community services, transportation services, increased use of aged volunteers, efforts to compensate for the concentration of health services and personnel in metro areas, and social service delivery with less "rehabilitative" emphasis and more on sustaining support (often through transfer payments) as a "normal" aspect of community and individual life.

COMMUNITY CHANGES

Just as the increasing number of aged in rural and small town areas has implications for social service provision, it also has political implications which affect the full range of public services and public responsibility. The elderly combined with the "new" population of former city dwellers will, in all likelihood move the political agenda in such communities away from the traditional "farm support" character of communities to a "small town with urban amenities" focus. Such a focus will likely start with a "good community" consciousness with much greater emphasis upon active planning and "creation" of the proper small town environment through public policy and regulation.

Architectural uniformity, historic preservation, elimination of visual clutter, and the maintenance of community public services, education, and social services which will serve the population and attract "new jobs" are likely to be the themes of the future in many smaller communities. This is quite a departure from the "let it be" character of small town life we are inclined to romanticize about, and it has implications for the development of a service sector concerned with planning, development, community marketing, and image maintainance.

ISSUES OF SERVICE DELIVERY

Much attention has been given in social service literature to the distinctive social character of rural and small town areas. Horner and O'Neill, for example, reflecting on child welfare services in Eastern Washington area argue that small communities can be highly idiosyncratic requiring specialized knowledge of "who is involved" in community processes before services can become well integrated in a community. An element of this is the higher degree of self-conciousness and "visibility" in rural areas and a sense that they do not possess the resources to change the established, and especially resistant, patterns of rural life. An aspect of this identified by many others is the prevalance of preexisting "natural networks" for support and service provision that have emerged in rural areas and the instrusiveness of publically supported and professionally staffed services. Many of these natural networks are based in extended family, religious, or ethnic identities which public policy and regulation has difficulty recognizing and supporting.

More recently, perhaps reflecting the reality of economic and population changes and the impact of national media in rural areas, there have been arguments that the difference between urban and rural areas is overstated. Hardcastle, for example, in a study of the values of "caregivers" and clients in rural Kansas finds that the presumed value differences between "urban-liberal" oriented social workers and their rural clients seemed barely to exist and he seems to doubt generally the urban-rural value dichotomy which is so easily assumed.

While the "value" differences between rural and nonrural have no doubt diminished, just as regional and ethnic differences have also diminished in the presence of a genuinely national (and perhaps international) culture sustained by communication and consumption markets which yield to no hold outs, there is certainly evidence of continuing "natural networks" of support. In a recent report of the National Institute on Social Work in Rural Areas, many such networks were cited and described in areas of mental retardation, disabled farmers, resettlement among the Indochinese, housing for migrant laborers, health education and service, and care for children born out of wedlock. Also in the report were expressions of dismay over the relentless process of school consolidation in rural areas and the decline of local ownership, and distinctiveness, of newspapers. Perhaps the "natural networks" will give way to professionalized and bureaucratized social service provision, but the current national emphasis on volunteerism and privatization are applicable to rural as well as urban areas. And if these emphases have any meaning, it is surely in the recognition and support of pre-existing "natural" systems of support among persons.

Much work is required to assist state and federal agencies in recognizing natural networks where they exist and then incorporating such systems into a larger, probably rather mixed, system of provision. If care is taken to avoid excessive centralization and standardization of services, and recognition is given to existing patterns of help and support, perhaps the community character of rural areas and smaller towns which have survived will continue to do so and the sort of sameness city-to-town, which Lytle refers to as "stamped out of plastic", will not characterize the social relations and organizations in nonmetro areas.

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FORESTRY AND RURAL COMMUNITY DEVELOPMENT

By Maurice E. Voland *

Nearly all of the earliest settled areas of the Nation were heavily forested. While these forests provided building materials for the structures required to protect the early settlers from the elements and intemperate neighbors, they also slowed the development of agriculture, limiting it to those lands that were most easily cleared. It was more than 100 years after settlement of the eastern seaboard that pioneers began to encounter the prairies of the Midwest. Even here there generally were adequate local timber resources to support the needs of these settlers.

WHAT WAS

Timber, being a readily available, adaptable, and easily utilized building material was in constant demand as cities expanded beyond the timber resources available locally. To fill the ever growing need for timber, forests at greater and greater distances from the consumer were harvested. At first transportation for large quantities of timber was limited to water. Only after the railroads came did water transportation become less important.

The form of transportation utilized to move the timber also dictated the location of the mills in which it was processed. When logs were floated downstream, mills were either located at the falls or as close as possible to the area where the timber would be used. Lumber mills required a stable labor force and were relatively immobile. This was in contrast to the logging camps where there was little permanence. The camp moved with the timber harvest to limit the time utilized by the loggers in moving from camp to harvest site.

Mills fostered the development of communities. These communities provided housing for the mill laborers and their families, and also the other services required to maintain the mills and their dependent population. During this era, the "company town" was the norm rather than the exception. This was in contrast to the logging camp where there was no permanence, no families, and no support structure. Communities, as such, never really developed around the highly mobile camps.

Lumber mills and their associated mill towns represent some of the earliest examples of resource dependent communities. Wherever there developed a natural resource extractive industry processing center, there generally developed a resource dependent community. While some of these communities have grown and prospered through diversification, many have been abandoned when the proc-

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essing center was no longer needed, or when it could not compete with technology available elsewhere.

The timber industry marched westward across the Nation. Water transportation still was an important element but, as cities began to develop around the Great Lakes and their major river systems, the mills could be located closer to the source of the timber and further from the markets. Major Great Lakes ports such as Muskegon, Michigan served as the mill center for much of west-central Michigan, as well as the port where lake ships were loaded to supply the insatiable need for lumber by the explosive growth of Chicago.

The railroad soon became the major means of long distance transportation. They allowed the timber resources of the upper Midwest to be exploited and eventually access to the resources of the far West. It was well into this century before the timber resources of the Pacific Northwest were tapped because there had been adequate timber available closer to the major markets. Most of the timber that was harvested early came from privately held lands.

As the highly visible timber industry moved West, smaller units remained behind to exploit those pockets of locally available high quality timber that had been overlooked or that had not been economically available to earlier operators. Changing needs and changing price structures also fostered the maintenance of local timber industry although the day of the dominant timber dependent town through much of the eastern half of the Nation had passed.

WHAT IS

The major timber processors followed the movement of timber exploitation from the East, thru the Great Lakes states, and on to the West where it became centered during the first third of this century. Vast acreages of privately held timber, as well as the bulk of the timber managed in the public interest by the Forest Service and the Bureau of Land Management, was located in the mountainous western part of our country. Heavy demand for timber products domestically, and more recently from foreign markets, provided for a prolonged era of timber harvest in this region.

As usual, that timber which is most easily harvested and transported to the mill was harvested first. Improvement in rail and road transportation allowed mills to be located further and further from markets. The ability to transport logs long distances from harvest site to mill fostered the development of larger and fewer mills.

The first major wave of mill closings in the West came during the 1960's with impact being felt by those residents of the timber dependent communities whose employment was affected by the closing. New mills being built at that time utilized newer technology, not only requiring fewer worker inputs per board foot of milled lumber, but increasing the yield per log as well. Environmental regulations could more easily be met by newer and larger mills since costs could be spread over larger outputs. These highly capitalized mills could also more readily make adjustments dictated by the marketplace. It is not uncommon for mills of this type to receive logs from 200 or more miles away.

Even with all of the current technology, the fact is that most of the economically harvested timber on both public and private lands in the western United States has already been harvested! The regeneration cycle tends to be quite long (80 to 100 years) throughout much of the West; consequently, it will be 30 to 40 years until there will be increasing supplies of saw timber available from those areas that were harvested earlier in the century. In recognition of this fact, many major timber companies have already moved corporate headquarters from sites in the Pacific Northwest to sites in the South, an area where the regeneration cycle for saw timber is considerably shorter. In addition, there are large supplies of new growth saw timber available for harvest throughout the South.

The marketplace is also accepting alternatives to typical timber products. Many of these products are manufactured from less desirable species, or from materials that were formerly considered to be waste. Chip and particle board are two examples of manufactured products that are replacing plywood, itself a substitute for certain types of dimension lumber.

While there are small numbers of large mills in the Pacific Northwest, that is not the case in the South. There remain large numbers of relatively small mills that have specialized in filling the needs of unique and specific markets. While the major timber companies also have a few large mills throughout the South, significant stumpage is processed by the smaller mills. This mix of mills fosters a competitive atmosphere which has caused all involved in the processing of timber to be more aggressive in meeting the needs of the marketplace and more efficient in their manufacturing process.

IMPLICATIONS FOR COMMUNITIES

The West still contains many timber dependent communities, some of which might have long since passed into obscurity if it had not been for Forest Service policies (Timber Reserve policies) that provided timber to mills in selected isolated communities at bargain basement prices! These policies developed out of public concern for the impact on "community stability" if timber from the National Forests was unavailable for processing in local mills.

Federal tax laws also have been instrumental in keeping some mills open beyond the time when they normally might have closed, or in closing some long before the market, availability of timber, and other factors would have dictated. The reality is that timber dependent towns in the West have few other options for economic development, given the fragile biological environment in which they are situated. Not only are they very closely tied to the processing of timber, but they are far enough from other major centers of economic activity that, to this point, there were few advantages, other than climate and/or scenery that might attract alternative employers. With nearly every mill town having similar environmental ammenities, there has been little incentive for individual communities to attempt to capitalize on these resources. The exceptions are those highly capitalized recreation developments that depend on these very amenities. However, for every community that potentially might benefit from a high quality recreation development, there are hundreds that will not.

Those timber dependent communities of the East and the Upper Midwest either adjusted, or died out, a long time ago. Communities in the South tend to be closer together and, while timber processing might be a major employer and economic force in some, there generally are other employment opportunities within reasonable commuting distance. Consequently, the cycles in the timber industry which follow the national economic cycles (build during the upside, don't build during the downside) have less impact on local economies in the South than in the West. Further, since nearly all of the timber resource in the South is in private ownership (granted, much of it is in the hands of private non-industrial owners and is poorly managed), its availability is much less affected by public policies that affect the availability of timber from the publicly owned and managed lands of the West.

As the timber industry moved West with the settlement patterns of the Nation, there were few, if any, policies or programs that were implemented to ameliorate the problems faced by residents in abandoned mill towns. However, the collective consciousness of our society may demand that this not happen again. If that is true, there will be pressures exerted on both the private sector and all levels of government to intervene to ease the impact on these communities.

We are well aware of the fact that the era of "throwing money at a problem" to seek resolution has passed. The fiscally conservative orientation of public many decisionmakers today will not consider these kinds of programs. However, there may be ways in which creative partnerships might be forged between private sector entrepreneurs and levels of government that might foster the development of alternative employment opportunities in many of the isolated timber dependent communities. We have entered the "information age" and information is easily transported, does not need rail lines, roads, bridges or even airports. With the availability of reliable electrical power, phone lines, and perhaps a satellite dish, we can begin to speculate about the kinds of opportunities that might become available in these isolated communities.

Governmental policies which can foster private development at no, or very modest, cost to the public treasury may well be the most direct route to assisting those timber dependent communities in the West that will suffer as mills close. These same policies may well benefit other resource extraction dependent communities as well, providing a bonus to the nation and our fellow citizens. Since few, if any, communities in other parts of the nation are dependent on the timber industry to the same extent as some western communities, governmental policies that do not favor nonrural areas over rural areas can foster equality of opportunity for all citizens, regardless of location.

LINKAGE IN RURAL AREAS

By Terry Tomazic *

One of the most salient characteristics which distinguishes our present day social world from that which existed 200, 100, or even 50 years ago is the increasing degree of interdependence among all levels of society. Actions by individuals, groups, organizations, and governments—both within and external to the society—impinge on each other. Nowhere has this shift been more dramatically or radically felt than in the rural areas of the United States.

Traditionally rural communities could and did operate in relative isolation from the growth, development, and change that might have surrounded them. While interdependence existed, it was mainly focused on local concerns which were easily handled either informally or at some yearly "town meeting." Rural communities could remain quite parochial in their values, attitudes, and behaviors and suffer few side effects from the world around them. In fact, it is this very idea of the anachronistic, isolated, rural individual which helped distinguish the stereotypes of the "naive, simple, country bumpkin" and the "urbane city-slicker."

Rural areas are, however, no longer isolated and the dichotomy between rural and urban areas has been replaced with a singular "fuzzy," rural-urban continuum. A range of networks now link rural areas with other rural areas or communities, larger communities, regional and national markets, State and Federal Governments, and even other societies in much the same manner as those networks developed by urban areas. These links come in a variety of forms ranging from the more abstract or nebulous types such as political influence or power to the more concrete and physical types such as roadways and telephone lines and all serve to "pull" the community or area inexorably into the web of modern society. In fact, we seem to indirectly define growth and development in terms of the number and extent of interdependent links established between a community and other parts of the society, while the loss of such links is seen as atrophy and death.

Such interdependencies are conceptualized in sociological literature by the term linkage which is derived from a long history of inquiry in most of the social sciences. As such, linkage refers to the relationships of social units or of their subunits which facilitate the flow of items, ideas, and resources from one social unit to another or between subunits of a community and subunits of a larger social system (Eberts, 1977). Linkages are the potential channels that individuals or organizations in one community have which facilitate exchanges with another community or social system outside its boundaries (Sismondo, 1973). Linkage is thus a channel, for exam-

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ple, which serves to connect one community with another, tie it to a State capitol, or place it in a national market. An obvious physical example would be the interstate highway system.

The concept of linkage serves a similar function for communities and is, as Warren describes it, the vertical lines—be they physical, social, or abstract—which flow up and out of a community and connect its subunits with other subunits of extra-community systems. Warren (1963:161) uses the term vertical to "reflect the fact that such relationships often involve different hierarchal levels within the extra-community system's structure of authority and power." Linkage is not a particular type of subunit in a community but rather a type of relationship which ties subunits of a community structurally into a larger network.

This is not to imply that linkages are only one-way routes out of a social unit. They are at least two-way flows replete with their bottlenecks, traffic jams, and high speed superhighways. For, example, manufacturing units both buy and sell in regional and national markets, often reacting quickly to fluctuations in those economic spheres. Another example would be that while a county might present itself in State politics as a force to be reckoned with, it must also acquiesce to State policy since it (the county) is the administrative arm of the State.

Transportation systems exemplify the inflow and outflow of people, goods, or services. Such examples of linkage can be tied to the theory of "export base" or "economic base" of a social unit, although the linkages, as noted above can go beyond just economic activity (Eberts, 1972:34). Sismondo has expanded on this by creating a typology of intercommunity linkages for a study of rural Canadian villages which are shown in Table 1. He suggests that linkages may be typified according to the type of resource exchange involved, by institutionalized versus non-institutionalized linkages and by active versus passive linkages (Sismondo, 1973:35). Thus linkage can be seen as having a wide range of subareas.

TABLE 1—Typology of Intercommunity Linkages (Sismondo, 1973)

I. Institutionalized Intercommunity Linkages
    A. Active linkages, whose continued existence depends on the successful transmission of information or resources and use of its facilities by a client population.
        1. Predominantly economic linkages
            a. Business (importers, exporters, cooperatives, branch plants, manufacturers, wholesalers, retailers, agriculture, fishing, lumbering, etc.)
            b. Financial (banks, credit unions, insurance offices, finance companies, stockbrokers, etc.)
        2. Predominantly political linkages
            a. Government offices (welfare offices, agricultural extension agents, manpower placement offices, courts of law, community action agencies, etc.)
            b. Political representation (members of federal and state legislatures, members of regional councils, etc.)
            c. Political party representation (election and campaign committees, staffs of political parties, etc.)
        3. Professional linkages
            a. Professional affiliations (medical committees, law bars, teacher's associations, etc.)
            b. Labor affiliations (locals of national labor unions, fishermen's associations, etc.)
        4. Other Informational linkages

            - a. Mass media (newsprint, television, radio, etc.)
            - b. Religious and eleemosynary institutions (churches, Salvation Army, etc.)
            - c. Educational institutions (extension education, universities, etc.)
    - B. Passive linkages, which await the utilization by a client population before they can be termed useful.
        - 1. Roads
        - 2. Public transportation
        - 3. Telephones
        - 4. Libraries
        - 5. Information offices
        - 6. Other infrastructure (telex, computer systems, etc.)
- II. Non-Institutionalized Intercommunity Linkages
    - A. Commuters
    - B. Return migrants
    - C. Informal intercommunity/communication patterns (visiting, extended family relations, etc.)

In the interest of brevity, only two of these linkages will be detailed in order to show how they work for rural areas. Such detail is not intended to serve as a means for narrowing the scope of linkages, but rather to serve as a catalyst in expanding the horizons for planners, administrators, agents, or others who must serve the interests of rural areas. By seeing how a few linkages work, it is hoped that policy planners in rural areas can further develop linkage channels specific to the needs of the areas they serve.

ECONOMIC LINKAGES

Measures of this dimension serve to reflect the economic ties between an area or community and larger regional or national markets. This is the dimension most closely allied to the economic conceptualization of export base. Organizations like manufacturers or grain co-operatives must buy and sell in a wider market in order for such businesses to remain profitable since the local community can seldom if ever, supply all the necessary resources for production or consume all that is produced. In terms of rural areas, the major commodity of exchange has traditionally been agricultural products and an areas ability to reach the wider regional, national, or international markets with such products is as important as being able to produce them. When a rural area becomes increasingly isolated in a market sense it is also likely to lose labor potential due to out migration thus further exacerbating the isolation. Stores and businesses which provide a linkage for the inflow of necessary goods and services can no longer remain profitable and are either forced to move or to close. The whole situation then snowballs in a de-linking process leading to atrophy and death of the community.

Such a process is not endemic to rural areas alone. The demise of communities which are not based on a diversified economy is well documented (Cottrell, 1951) and can be seen in such contemporary examples as Youngstown, Ohio where the closing of the steel mills put the city in shambles (Youngstown, 1977). What is important to realize here is that policy for rural areas can no longer be focused solely on agriculture since much of rural America is becoming primarily nonagricultural and a declining number of the rural population is involved in farming (Bradshaw and Blakely, 1981).

Planners and policy makers need to develop a diversity of economic linkages which can keep rural areas from becoming isolated both in terms of supplying the needs of the wider markets and meeting the consumptive needs of the local community. While the implementation of such policy decisions is not easy, the importance of such a task cannot be overstated because new linkages provide additional channels through which new information and additional goods and services might flow. As Sismondo (1973:37) states:

> Linkages which increase information regarding external markets, economic conditions, consumer tastes, and new states of technology are essential requirements to a dynamic export sector of any community or region. The producer-exporter, as a result of increased informational linkages, will be able to make decisions which increase his income, and therefore the income of the community in which he resides and labors; new markets may allow him to diversify his operation, new technology may allow him to increase his productivity, and new credit may allow him to expand his enterprise.

Thus the establishment of diverse economic linkages in rural areas would provide a means by which export activities, individual incomes, and consumer activities are increased.

Establishing such linkages does not come without "costs" to the local area. Eberts (1972:36) alludes to this factor when he states that a:

> . . . major effect of new linkages (or their disappearance) is to alter existing power relations. Especially when the new linkage is a branch plant of an economically and politically powerful corporation whose managers both expect respect from local leaders consonant with their positions and have different, more cosmopolitan orientations of the resolution of community problems, this linkage will influence local power structure.

The introduction of new linkages into an area will serve to alter the patterns of communication and social relationships of the local community. To rural areas this alteration can be quite radical, requiring much preplanning on the part of change agents. The recent announcement by General Motors regarding their intention to build an auto plant in Spring Hill, Tennessee is a case in point. This small, relatively isolated rural community of less than a thousand people found its quiet, pastoral existance completely altered in a few days time. As such, the rapidity and radicalness of the change would seem overwhelming and indicates the need for more careful preplanning and research if the introduction of such economic linkages is to be beneficial.[1]

POLITICAL LINKAGE

A second major type of linkage has a very direct bearing on rural America. These links are those identified in Table 1 as predominantly political linkages. It is in this area that rural America has suffered a tremendous loss of linkage channels, both in terms of access to larger governmental systems and the development of specialized skills necessary to deal with complex government bureaucracies. For the purpose of this essay, only the loss of access will be exemplified since, under the democratic theory of "one person, one vote," it cannot be reestablished and alternatives must be found. Again, it is not that other forms of political linkage are unimportant but that political representation provides a good example of what can happen when an area loses linkages.

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[1] Tennessee provides an additional example in the Nissan auto plant in Smyrna. While Smyrna can not be construed as a rural area, the building of this plant linked the community to both national and international markets. Such linkage channels not only connected Smyrna in an economic sense but also forced them to comprehend and deal with a different set of cultural norms as well.

One form of political linkage can be defined as the channels which tie a local area to the larger governmental unit and can be indicated in the person of an elected official and the particular office that person holds. The assumption entails the premise that the greater the number of state officials coming from an area and the longer they can maintain their position, then the greater the benefits which could accrue to that area because of such representation. This is not meant to accuse any governmental official or representative of wrong doing. Rather, it is the idea that when political units seek to obtain benefits and solutions for their problems, they stand a better chance for an airing of their request if the individual solicited comes from that community and has moved in the same circle of individuals.

Prior to the 1960's, rural areas of the country had numerous political links because of legislative malapportionment. In many States rural minorities were said to control the State legislature, thereby penalizing the urban majorities and 22 of the 50 States were considered to have substantial distortions from democratic theory (Derge, 1959). This representational imbalance had various consequences, the creation of artificial rural majorities in state legislatures being the most obvious (O'Rourke, 1980). Thus the distribution of influence in state legislatures and the parceling out of revenues after state-wide services had been funded were directly affected by imbalances in the distribution of population within the states. Such monies were not divided equitably due to the imbalances in representation and urban areas often turned, hat in hand, to the Federal Government because of a lack of adequate funding. For this reason, Charles Baker, then Shelby County Executive (Memphis, Tennessee) and others decided to sue (Graham, 1972). The result was the United States Supreme Court decision in Baker v. Carr (1962) which established the principle of "one person, one vote" (O'Rourke, 1980). Research on State legislatures (Tomazic and Perez-Reilly, 1985) showed that the reform process did indeed lead to more equitable representation. However, it also showed that rural areas have lost one of the few major forms of linkage available to them, governmental representation.

Because of Baker v. Carr rural areas lost more than just a number of legislators, however. Those "artificial majorities" gave rural, State legislators access to and control of the more important legislative positions and committees. In other words, the political linkage provided rural populations with greater access to power and influence in State government than their numbers would indicate. Research (Tomazic and Perez-Reilly, 1985) has shown that, after Baker v. Carr, the number of solely rural legislators declined since many of the rural areas were redistricted in combination with an urban area. Also, because of smaller numbers, few, if any of these rural legislators gained positions on or chaired important legislative committees. Reapportionment dramatically altered the patterns of linkage in State government and it is highly unlikely that the more sparsely populated areas in the United States can ever restore the degree of political linkage they once had solely to themselves.

Political linkages are extremely important because they represent a locality's access to funds, information, aid, and ultimately their "well being." The de-linking trend discussed above certainly does not provide a positive note for rural areas. They are suffering, and will continue to suffer, under the weight of having few legislators to represent their "interests." While one cannot deny the desirability for equal representation, it does create a situation in which some portions of the population have, at most, minimal access to influence and power.

Thus planners and policy makers in rural areas are faced with developing alternative political linkages which do not violate the principle of equal representation. It may well be that rural areas must become their own special interest group much like labor unions, industry and trade groups, or municipal associations. Groups like Rural America, Inc. need to be fostered and "professionalized" throughout the country (Bradshaw and Blakely, 1981). Such special interest groups might find it beneficial to take a strong interest in elections in the multiple seat, urban districts and thus provide rural areas with new political linkages. Such is but one suggestion however for reestablishing necessary political linkage; many more must be developed.

CONCLUSION

This essay then has been an attempt to define and describe interdependent linkages and their particular impact on rural America. The focus has been to acquaint policy makers, albeit briefly, with the importance of such linkages so that they might well be taken into account in rural policy analysis. The fact that rural areas are undergoing fundamental and long-term, socioeconomic changes is well documented (Bradshaw and Blakely, 1981). A major aspect of those changes is that a highly interdependent world is linking itself together faster than we can ever comprehend it. Generally, rural policy has focused solely on agricultural productivity and thus often fails to reflect such changes as they are occurring.

For the most part people and policy makers in rural areas have been slow to acknowledge that linkage (or the lack thereof) was problematic. Research has long shown that the forces which serve to structure an area or community into a larger matrix are generally found external to the community. Classic studies such as Vidich and Bensman's *Small Town in Mass Society* (1958) have shown how the structural concept of linkage ties rural communities with the larger society, forcing changes in a traditional society. The changes brought about by interdependent linkages 30 years ago in upstate New York, however, pale in comparison to those faced by rural areas as they move toward the twenty-first century.

What is needed then is the development of a workable rural policy which stimulates the development of viable alternative linkages that will successfully tie rural people and communities to the mainstream of modern society and thus improve quality of life for all.

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LOCAL GOVERNMENTS IN RURAL AND SMALL TOWN AMERICA: DIVERSE PATTERNS AND COMMON ISSUES

By Alvin D. Sokolow *

Few generalizations are possible about the thousands of local governments that serve rural and other small American communities. They are a significant and complex part of the Nation's public sector, not just a homogeneous residue remaining after the problems and needs of big cities and metropolitan regions are looked after. In fact, the governments of rural areas and small towns are a much more varied lot than the public agencies of large urban places. They are diverse in programs, organization, and finances.

Yet there are some common features inherent in the relatively small sizes of rural governments. Serving small populations and possessed of limited resources and political power, they are quite vulnerable to powerful outside forces. Local revenue bases and public services are sensitive to shifts in national and more localized economies, and to decisions made by such outside institutions as corporations, the finance and insurance industries, national and state governments, and the courts. We have ample evidence in the 1980's of these vulnerabilities, in the widespread local governmental effects of economic recession, fluctuations in Federal and State aid, and the municipal liability crisis.

This chapter reviews the elements of rural government diversity and commonality in two contexts: first, in how small governments are organized and function, and second, in a short list of issues that now prevail among such local governments nationwide.

LARGE NUMBERS AND SMALL SIZES

From outward appearances, local government patterns do not seem to differ greatly between rural and urban areas. Both have the same basic types of local government—incorporated municipalities (cities and villages), towns, townships, counties, and single purpose units such as school districts and special districts. The formal patterns are similar because state governments created the governing arrangements for their communities and the States borrowed from each other, especially from the original 13.

The similarity ends there, however. Rural areas have far more separate units of local government than urban areas. And these are relatively small governments, in populations served and in organizational size.

With only a little more than a quarter of the total population, nonmetropolitan areas contain almost two-thirds of the Nation's

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80,000 local governments (Table 1). Especially large proportions of all town-townships and counties—71 and 88 percent, respectively—are found in these areas [10]. Another way of making the point, and one that gets around the artificial nonmetro-metro distinction, is to note that almost 70 percent of all municipalities have less than 2,500 residents apiece, the conventional Census Bureau definition of a "rural" place.

TABLE 1.—LOCAL GOVERNMENTS IN RURAL AND SMALL TOWN COMMUNITIES, 1982

[Numbers and types]

In both nonmetro and metro areas			In nonmetro areas		
	Number	Population served (millions)		Number	Percent of total
Municipalities under 10,000 population.	16,829	28.1	Municipalities	12,058	63.2
Towns-townships under 10,000	15,715	22.2	Towns-townships	11,978	71.6
Counties under 25,000	1,682	20.1	Counties	2.471	88.0
			School districts	9,159	61.7
			Special districts	16,863	59.0
Total small general purpose governments.	34,226		All governments	52,429	63.7

[Budgets]

	Total expenditures (billions)	Percent of all governments	Average
Municipalities under 10,000	$12.983	11.5	$771,465
Northeast towns under 10,000	2.335	26.7	651,870
All Northcentral townships	1.373		109,112
Counties under 25,000	1.950	2.9	1,159,000

[Employees]

	Number	Average per government
Municipalities under 10,000	253,159	15.0
Northeast towns under 10,000	53,913	15.0
All Northcentral townships	16,161	1.2
Counties under 25,000	52,421	31.1

Source: Census of Governments, 1982.

Whatever the definition employed, it is clear that the great majority of rural governments—indeed, the great majority of all local governments in the Nation—serve very small populations. While nine American cities in 1980 had populations in excess of one million apiece, 9,514 others had fewer than 1,000 residents each.

Small size also characterizes the organizational features of rural governments, especially their finances and personnel. Municipalities under 10,000 population, for example, in 1982 reported average expenditures of $771,000 and an average workforce of 15 employees (full-time equivalents). For the 12,000 North Central (Midwest) townships, the majority located in agricultural areas, the averages were $108,000 in spending and 2.1 in employees [10]. Even these averages, skewed to the upper parts of the range, do not adequately portray the numbers of tiny public entities scattered throughout the land. In fact, about 40 percent of all local governments—including most North Central townships and about a quarter of all municipalities—have no full-time employees at all [6].

Another consequence of small size is an informality in style and operation. Rural governments generally lack the bureaucratic procedures and formal hierarchies typical in larger and more urban local governments. Since they have few if any employees, extensive levels of supervision are not needed. People are generalists, not specialists, as seen especially in how elected officials—mayors, supervisors, selectmen, council and board members, etc.—get involved in daily administrative tasks as well as policymaking. Rural community values support these patterns; the popular bias is against the impersonality and distance of official formality. Citizens expect that the people who run their local governments will be accessible, open, and friendly [9].

VARIATIONS IN FORM AND FUNCTION

To call all of these governments "small" obscures almost as much as it informs. For within this size category are enormous variations of form and function.

As an example, consider the differences between the municipal governments of two hypothetical but realistic small communities, one with just a few thousand more residents than the other. The village government in the community of 800 persons operates on an annual budget of $150,000, which supports mainly street maintenance, the water and sewer utilities, and a grassy area that serves as the village park. With no full-time employees, the elected mayor and councilmembers, two part-time workers, and volunteers keep the municipality going. Law enforcement is provided by a resident county deputy sheriff, while an entirely volunteer force constitutes the fire department.

With 4,000 residents, the government of a nearby village spends ten times as much and has a municipal workforce of 35 full-time employees. They are organized into several formal "departments"—police, fire, public works, park, city hall—led by supervisors appointed by the village council. A professional administrator provides some overall coordination and is the council's finance officer. While fire protection is largely in the hands of volunteers, the department is headed by a paid chief and includes two driver-maintenance men. The village workforce is large enough to supply some specialized services missing in the smaller village, including a recreation program run by the parks department and a juvenile officer in the police department.

Diversity is also seen in a comparison of the several major types of general purpose governments which serve rural and other small communities. Incorporated municipalities provide urban-type services to population centers, while county governments serve good-sized regions with a mix of state-required and local programs. Township and town governments, found in 20 Midwestern, New

England, and Mid-Atlantic states, have similar roots as area-wide governments, but with some major variations. Most midwestern townships have a strictly rural orientation, with an emphasis on roads and a few other basic services, while New England town governments tend to offer a wider range of activities, combining both rural and small urban orientations.

These traditional distinctions, however, are not always an accurate guide today to the programs of individual governments. One reason is that large numbers of rural units with once limited activities—county governments and Midwestern townships, in particular—have taken on city-type functions in recent years, such as water supply, wastewater treatment, zoning, and building code enforcement. These program shifts largely follow community changes, especially rising citizen expectations that come with growth but are also influenced by Federal and State requirements.

Some order can be imposed on this diversity. Depending on the communities served, rural and small town local governments fall into three major clusters:

1. Those serving essentially open-country areas, usually farming or ranching neighborhoods with few if any population concentrations. Most midwestern townships and many nonmetropolitan county governments fit this category.
2. Incorporated municipalities which serve small and fairly stable population centers. By whatever designation, such communities are miniature "cities", with business districts and residential areas and with public activities similar in scope—if not in scale—to large city governments.
3. Local governments of any kind which serve communities undergoing the transition from strictly rural to semi-urban or suburban. Among all small governments, these agencies—towns, townships, counties, municipalities—have the most challenging job of all, having to satisfy the disparate and often competing needs of farmers, nonfarm open country residents, new "suburbanites", developers, and others. Similar to the classic suburbanization of the post World War II era, such rural-to-urban transitions occur today on the outskirts of many small urban centers and on the distant fringes of metropolitan areas.

Other variations of note among small local governments show up in how they divide power and responsibility. Elected chief executives—supervisors, trustees, first selectmen, mayors, etc.—are clearly in charge in some governments. In others, power is spread among the members of municipal councils or town-township or county boards. Much depends also on the number of positions in a government that are elected, and the extent to which decisions are delegated to citizen groups or reserved for the town meeting and the citizenry at large. We must not ignore the small but growing number of small governments which place executive power in the hands of managers or other appointed professionals, thereby changing the role of elected officials. Finally, it is worth noting that, for small governments as much as for other political arenas, informal patterns of influence are often more significant than formal titles and lines on an organization chart.

RURAL GOVERNMENT ISSUES IN THE 1980's

The vulnerability to outside forces is a common thread that appears on any inventory of current small government issues. Here is a short list of these issues, as perceived by local officials and others familiar with small government situations. Much of this material is based on a national phone survey of a small sample of rural and small town local officials, conducted by the National Center for Small Communities late in 1985 [3].

1. Fiscal Strain

Limited revenues topped the list of problems identified by respondents in the survey. The several forms of this issue included declining public finances induced by economic showdowns, state-imposed restrictions on local taxation (including caps on property tax rates and assessment procedures), and reduced State and Federal aid. In practical terms, the limits mean that local government revenues over the long term fail to keep pace with pressures for rising expenditures.

Other evidence singles out several major groups of small governments that are particularly hardhit by revenue reductions or limitations:

> Local governments serving rural communities in the Midwest and elsewhere affected by agricultural losses [7].
>
> Small towns dominated by single industries on the decline, such as wood products communities in the Northwest and other manufacturing places elsewhere [2].
>
> Communities losing population as well as industry [5].
>
> Very rapidly growing small communities, especially those with little commercial or industrial tax base so that increases in public revenues fall behind residents' demands for expanded services.

How severe the impact on small government finances of overall economic decline depends in large part on the mix of revenue sources used by individual governments. Municipalities rely heavily on the sales tax, which is relatively sensitive to immediate economic shifts. County, township, and town governments make greater use proportionately of the property tax, which responds in a delayed fashion to economic change because of time lags in property assessments and tax collections. This suggests that, while higher rates of tax delinquencies have already been recorded, the full effects of the decreasing property values in farm communities in the Midwest and elsewhere are still to be experienced.

2. The Decrease in General Revenue Sharing

Acerbating these fiscal difficulties for many small local governments are recent and current decreases in Federal aid. The Administration's proposed demise of the 12-year old General Revenue Sharing program, as this is being written, is particularly distressing for rural officials because it is the only form of federal aid received by the great majority of their governments. While the dollar amounts of GRS allocations to small general purpose governments are not great by national standards, they represent a significant and flexible share of many local budgets. Also under pressure is the Farmers Home Administration program of loans and grants for water, wastewater and other community facilities in rural areas. All told, the Administration's fiscal 1987 budget proposals would reduce Federal aid to rural and small town governments by more than 50 percent from current levels, according to estimates of the National Center for Small Communities [4].

3. *Intergovernmental Obligations*

As Federal funds for local governments seemingly dry up, Federal mandates and other requirements continue to restrict local programs. Included in these ongoing obligations are national clean water standards, implemented through State governments, which require local improvements in wastewater treatment facilities. Many small communities are still not in compliance with the standards, although Federal funding for these projects is being phased out. Small governments recently weathered the storm of seeing their personnel systems and volunteer activity potentially restricted by national fair labor standards regulations, and some paperwork and other restricts attached to Federal aid programs have been softened in recent years. But it is likely that other kinds of Federal and State obligations on local governments will increase in the future, including further refinements of national standards dealing with groundwater protection and solid waste disposal sites.

4. *Information and Expertise*

The job of setting policies and running public programs at the community level has become considerably more difficult in recent years, for all local governments, small and large. Lacking specialized staff expertise, leaders of rural and small town governments still need to deal with a range of intergovernmental and local demands that were unknown 15 or 20 years ago. As citizen-officeholders, many of them part-time in office, how can they possibly cope with clean water and other environmental requirements, the new threats to traditional governmental immunity, more complex personnel procedures, and competing demands for community development and preservation?

They can turn to a variety of outside sources of advice and information—peers in nearby communities, private consultants, State associations, departments of State governments, cooperative extension specialists, universities and colleges with management and technical programs, etc. In fact, sources of technical and management assistance for small governments have proliferated in the past two decades, along with the mandates and other intergovernmental obligations. Even the Federal Government got into the act, with assistance programs in the planning, management, and personnel areas, most no longer in operation.

The problem for most small governments lies not in the availability of information and expertise, but in its accessibility and usefulness. It takes time and existing knowledge—resources already in short supply among most small government leaders—to effectively tap the outside sources. Furthermore, much of the management and technical assistance offered is based on large government experiences, with doubtful application to rural and small town jurisdictions.

5. Continuity in Public Office

Not all of the major issues and concerns of small government can be attributed to the demands of outside forces. There are essentially local circumstances as well, including the problem of maintaining continuity in public office. Often the valuable skills and experiences acquired by elected officials during their service is lost to their governments when they leave office. Their successors have to start from scratch, spending a long apprenticeship in learning the routine. Larger governments, with professional administrators and less management involvement by their elected officials, do not face this problem.

There is an intergovernmental dimension to this problem. Turnover rates are up among small community elected officials, a product of the increasing demands on these positions fostered by both external and local pressures [3]. How can continuity be maintained in such situations? The answer may involve a combination of orientation sessions for newly-elected officials and careful transitions between retiring incumbents and their successors.

CONCLUSION

Quite diverse in forms and functions, rural and small town local governments in common are small organizations with a great deal of vulnerability to external changes. Economic and intergovernmental trends both illustrate this vulnerability in the 1980's. Increasingly in the past two decades, small governments have been called upon to serve as implementors of Federal and State programs, supplementing their traditional role as community institutions. While Federal aid to local governments is on the decrease, mandates and other obligations continue to be as robust as ever. Since they operate in all parts of the nation, the thousands of rural town, township, municipal, and county governments will continue to be invaluable mechanisms for carrying out national policy.

The major challenge in this scenario is to find the optimal blend of local autonomy and intergovernmental responsibility for the small governments. Without diminishing at all their vital activity in delivering public services and giving political representation to millions of rural and small town Americans, it should be recognized that the small governments have become established as major players in American federalism. There are fiscal as well as programmatic implications in this role, for both State and Federal Governments.

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PUBLIC POLICY AND RURAL INFRASTRUCTURE *

By John M. Wardwell **

The nonmetropolitan migration turnaround of the 1970's has been explained in part on the basis of changing residential preferences, and on the basis of structural convergence: the processes by which rural and nonmetropolitan areas of the United States have become more similar to and integrated with all of American society (Beale, 1975; Fuguitt, 1985).

Structural convergence refers to the community infrastructure which makes modern living more safe, convenient and pleasant, and which also provides the base for modern economic growth and change. For decades rural areas have been trending toward urban levels of modern community infrastructure, although the gap has never fully closed (Reid and Sullivan, 1984). These trends, in combination with some degree of changing residential preferences, have resulted in the diminishing relative attractiveness of large urban areas and the growing attractiveness of rural or nonmetropolitan areas. This in turn led to the changes in migration patterns that have reversed several decades of rural population loss through migration.

The migration patterns changed again in the late 1970's and early 1980's (Engels and Forstall, 1985; Richter, 1985), diminishing the rate of population growth in nonmetropolitan counties while the rate of metropolitan growth continued with little change. As a result, nonmetropolitan areas are now growing more slowly than they did in the early 1970's, but are still growing much more rapidly than they did in the 1950's and 1960's.

To the extent that recent and continuing nonmetropolitan growth can be attributed to structural and economic convergence, it poses a dilemma for present and future rural development policy. That dilemma, plainly stated, is how to justify continued special treatment of rural areas in Federal development policy, if their population and economic growth indicates that they are now much more like the rest of the country or even, at least in some times, seen as more attractive locations than are the large urban areas. This justification may seem particularly more difficult in times of reduced Federal expenditures and changing Federal priorities.

It is the purpose of this chapter to show that while the vitality of nonmetropolitan America in the 1970's is in part due to past rural development programs, the freedom of Americans in the future to be able to live and work where they choose remains dependent upon the continuation of these development efforts.

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RURAL DEVELOPMENT AND RURAL GROWTH

Then-President Nixon opened the last decade with a call to revitalize rural America and to eliminate the inequities between metropolitan and nonmetropolitan areas of the Nation:

> We must create a new rural environment which will not only stem the migration to urban centers but reverse it. If we seize our growth as a challenge, we can make the 1970s a historic period when by conscious choice we transformed our land into what we want it to become (February 2, 1970, quoted in Tweeten and Brinkman, 1976).

Nixon's words would have been prophetic had he been describing the results of the efforts of the recent past. Although none knew it at the time but the hundreds of thousands of migrants who were then modifying their decisions as to whether and where to move, live, and work, structural changes were already in place that would change the bases on which those decisions were made. These changes had achieved the reduction in cultural and physical isolation of rural communities from metropolitan activity patterns and lifestyles (Kasarda, 1980) that had for most decades of the twentieth century impelled rural to urban migration.

Migration responds to the differentials between places on the key determinants of moving rather than to the absolute levels in either place. The structural impediments to nonmetropolitan growth through migration included the lack of varied nonfarm employment opportunities, real incomes competitive with those available in metropolitan areas, modern transportation and communication facilities, and access to a variety of consumption opportunities. As long as significant differentials on these dimensions persisted, migrants stood to gain substantially on every dimension with a rural to urban move and, conversely, facing the prospect of having to give up a great deal with a metropolitan to nonmetropolitan move.

These impediments were removed or reduced gradually, over several decades. In the context of increasing affluence and a generally decreasing return to scale, firms and households were acquiring the freedom to decentralize. With that freedom, preferences, often long-held, for the residential and other amenities of smaller, lower-density settlements, could be realized (Zuiches, 1980). As rural and nonmetropolitan areas became more like larger metropolitan areas on these structural dimensions, nonmetropolitan residents would gain far less than in prior decades with a move to a metropolitan area, while metropolitan residents would have to give up much less with a move to the country. Nonmetropolitan outmigration rates declined accordingly, while metropolitan outmigration rates increased. In combination, these changes defined the nonmetropolitan migration turnaround (Tucker, 1976).

What role did prior rural development programs play in bringing about these changes? If a very short time frame of a decade or two is adapted, the answer is necessarily that these programs have had only a small effect, and that of a facilitating nature only. The transformation and integration of rural society within the total national social system is an aspect of modernization in virtually all developed societies (Long, 1981). It would probably be more accurate to describe rural development legislation as a part of this more general trend than it would be to give this legislation the credit for initiating it.

But in a longer time frame the role of rural development policy is more clearly separable. To argue that the nonmetropolitan migration turnaround took place in part because of structural convergence is the same as saying that differentials in social overhead have diminished over the decades. Most of the rural-oriented legislation of the twentieth century has been infrastructure-oriented (Rasmussen, 1985; Reid and Sullivan, 1984). In fact, a longer view of urban-rural structural convergence requires going back at least to 1892, with the studies in road construction and maintenance conducted by the United States Department of Agriculture, and to 1896, with the provision of rural free mail delivery. Around that time, government joined with cooperatives and private enterprise to provide rural telephone service, and in 1908, Roosevelt convened the Country Life Commission to secure "the necessary knowledge of the actual conditions of life in the open country" (Knapp, 1969:iii).

Over the next several decades, these and other movements led to the creation and development of modern rural infrastructure: electrification, water and sewage systems, telephones, improved all-weather roads, mail delivery, and more recently, four-lane divided highways, community antenna and cable television systems and decentralized retail and service facilities. While it is likely impossible to separately identify the relative contributions of each of the three agents of the resulting rural transformation, cooperatives, commercial enterprises and the Federal Government, it is certain that the government made a significant contribution to the acquisition and development of rural infrastructures. It is equally certain that the changes in the distribution of population and employment that have been witnessed in the past decade could not have come about without the modernization of that infrastructure.

Innovations in infrastructure originate in large urban centers in part because the scale and density conditions of urban living made these often density-dependent developments more economical (Hawley, 1972). The lower unit costs made the provision of social overhead more profitable when provided by private enterprise, and less expensive for citizens when provided by municipalities. The effect of Federal rural development legislation has in many cases been to reduce the scale disadvantage of smaller and more sparsely settled rural regions. This permitted rural residents access to the social overhead that would have otherwise been denied them. As a result, formerly-urban forms of social organization, activity patterns and lifestyles have been extended in space so as to transform rural society and fully integrate it into the national system.

But, if rural areas have been in the process of converging on the infrastructure levels of large urban areas throughout the 1950's and 1960's, why were tens of millions of rural residents still then moving to the cities? Nonmetropolitan immigration and retention of rural residents could not become the dominant trends until changes in the total economy could permit pervasive and large-scale deconcentration of economic activities.

THE IMPORTANCE OF STRUCTURAL CHANGE

Do recent migrants to nonmetropolitan and rural areas define changes in community infrastructure as important to their decisions to move to these areas? The debate over changing migrant motivations has been largely concerned with economic and noneconomic factors important to migrants. The noneconomic category has included physical attributes of and proximity to the natural environment, aspects of personal and family lifestyles, and such indicators of social quality of life as personal safety and security. Little attention has been paid to the changes in community infrastructure which have traditionally been the goal of many rural development policies.

These changes were included in a mail questionnaire survey of recent migrants to an eight-county nonmetropolitan area of northeastern Washington and northern Idaho in the spring of 1982. These counties collectively experienced substantial change from net outmigration in the 1960's to very high net inmigration in the 1970's (Rowe, 1984).

In this survey, respondents were asked to indicate the importance to their move of a number of items that have been advanced to support the argument that structural changes in rural areas have reduced social isolation, provided a base for subsequent economic growth, and enhanced the attractiveness of these areas relative to that of metropolitan centers. The items included paving and improvements to country roads, completion of interstate highways, increase in shopping centers in or near small towns and highway intersections, development of television and community antenna systems, rural school consolidation, reduced social isolation, federal revenue sharing, availability of low-cost or guaranteed loans, improvement in water and sewer systems, availability of community services such as fire and police protection, access to air transportation, a greater variety of job opportunities, and access to the cities of the region.

Between 15 and 37 percent of the respondents indicated that one or another of these items had been important to their decision to move to the area. Urban access, community services, shopping convenience, reduced social isolation, and local road improvements were most frequently seen as important; the mean for these items was 29 percent. This is nearly as high as the mean importance of six economic indicators also included in the survey (33 percent). Other kinds of attractions were seen by the respondents as much more important: 44 percent cited other aspects of the social environment, and 84 percent identified aspects of the physical environment as important to their move decision. These data nonetheless indicate that nearly one-third of the sample of recent migrants to this nonmetropolitan region consider structural changes important to them.

Further analyses of these data indicate a striking relationship between the importance of these attributes of community infrastructure and the respondents' orientations toward economic growth. The strong relationship between the importance of these two sets of factors is easily seen in the Table 1, below, which groups respondents according to the economic growth rate which they desired, and compares their perceptions of the importance to them of changes in community infrastructure.

TABLE 1.—IMPORTANCE OR CHANGE AND RATE OF GROWTH

Importance of structural change	Rate of economic growth favored			
	Rapid	Moderate	Slow	None
Low	25.0	55.8	73.0	89.5
High	75.0	44.2	27.0	10.5
Size of subsample	16	147	74	19

Respondents were also asked if they believed that economic growth brought new businesses, a sounder economic base, and new people with new ideas to the community. Those who agreed that economic growth had these consequences were much more likely to feel that the community infrastructure items had been important to them than were those who disagreed with these consequences of economic growth. For example, one-half of those agreeing that economic growth brought a sounder economic base to their community indicated that aspects of community infrastructure had been very important to their decision to move; over two-thirds of those who disagreed with this economic relationship indicated that the community infrastructure items had not been important to them.

These data indicate that the aspects of change in rural communities which have been in part the objectives of past rural development programs are important to migrants to nonmetropolitan areas. Structural changes are important as means to ends that migrants are seeking. This is why the degree of importance attached to these kinds of changes in rural communities depends very much upon which ends motivate migrants. This relationship is seen in Table 2, below, which examines the variation in importance attached to structural change with the migrants' primary reason for moving to the area.

TABLE 2.—IMPORTANCE OF CHANGE AND CHOICE OF DESTINATION

Importance of structural change	Reason for choice of destination			
	Personal ties to destination	Physical environment	Social environment	Economic
Low	70.0	68.2	58.5	50.8
High	30.0	31.8	41.5	49.2
Subsample Size	30	44	53	61

COMMUNITY INFRASTRUCTURE AND LOCATIONAL FREEDOM

It remains to be seen whether the slower rate of nonmetropolitan growth in the 1980's is a result of the economic recession in the early years of the decade, or represents some degree of restoration of a balance of opportunities between metropolitan and nonmetropolitan areas, following several years of exuberant nonmetropolitan growth in the 1970's. Several points are clear, however.

First, several decades of successful rural development legislation have reduced metropolitan-nonmetropolitan differentials on levels of community infrastructure. Copp suggested that "one of the objectives of rural development should be to widen people's range of choices" (1972:520). Past rural development efforts may be judged successful by this criterion.

Second, the changes in community infrastructure that have reduced these differentials have been shown to be important to recent migrants to rural areas. Thus, third, the freedom of individuals, families, and firms to choose residence and work locations has been enhanced by these declining differentials. Finally, the revitalization of rural populations and economies of the 1970's was in part a result of these changes.

What do these facts imply for the future of rural development programs oriented toward community infrastructure? Can we conclude that these efforts are a job well done, and turn away from this area of activity in a time of reducing domestic expenditures?

Continuation and extension of these rural development programs is still needed to maintain the rural infrastructure in place and to continue to extend these services to rural residents of unincorporated areas (Reid and Sullivan, 1984). While the constraining limits of scale and density have been relaxed by the system-wide changes of the past several decades, they have never been entirely set aside. Maintenance of county roads is a burden that continues to fall more heavily on the residents of a sparsely-settled rural county than on the more densely settled. The cooperation of State and Federal programs will remain essential if the scale disadvantages of rural living are to continue to be mitigated. A rural place cannot remain economically or residentially attractive if social overhead is allowed to detiorate through the reduction of Federal rural development programs. The fact that those programs have been instrumental in redefining the national context of differentials by size of place itself implies a contract, or responsibility, to maintain what has been created.

Fifteen years have passed since Nixon called upon rural development policy to "transform our land into what we want it to become." The next 15 years will witness more sweeping changes in rural society than have the last 15.

Technological revolutions in telecommunications and information processing are now propelling the national society into and through what Dillman has called the "information age" (1985). He has focused attention upon the question of what the place of rural society will be in this new era. As developments in telecommunications diffuse throughout society, they advance the potential for further reduction of the constraining role of distance on the participation of rural society in the mainstream of national economic, cultural, and social life. Rural scale disadvantages may diminish further. Cable TV systems represented one stage in these developments. While these systems greatly reduced, the social isolation of small nonmetropolitan cities, they remained dependent upon the size and density of these communities for effective operation. Satellites and small dish antennas are another stage, further reducing scale advantages and density-dependence. They offer unincorporated rural territory a reduction in social isolation comparable to that which the cable systems brought to the smaller cities and larger towns.

The technological and economic forces driving the society through the information age will do more, however, than further reduce the importance of geographic location. These forces are themselves dependent upon the evolution of new forms of community infrastructure. Places that have, or develop, the appropriate infrastructure will possess a competitive advantage relative to those which do not. They will attract the newer and growing industries that economically and culturally embody the information age.

It is imperative that rural development programs seek to identify the nature of the community infrastructure implied by the shifts in economic activities and social patterns that the society has begun to experience. Once identified, it will then again be timely to secure "the necessary knowledge of the actual conditions of life in the open country," but this time with respect to the relative position of rural areas on the infrastructure dimensions implied by the characteristics of the information age. The relative position of nonmetropolitan counties not adjacent to metropolitan centers and of unincorporated rural territory must be a particular focus of this effort.

The information age will not lessen the importance to migrants of water and sewer systems, protective services, or the variety of job opportunities. But it will increase the importance of adequate electrical and telephone lines, including the availability of private rather than party lines, of efficient access to airports, and of the reliability and safety of county roads. The information age will permit a greater degree of decentralization than any previously possible in a modern society. But it will not necessarily dictate that decentralization. Within the wider range of choice with regard to work and residence locations, those places possessed of the infrastructure appropriate to the new era will prosper; those that are not will languish and decline. If there is a strong association between size of place and density of settlement and the provision of that infrastructure, rural and nonmetropolitan areas may again experience the consequence of drifting out of the mainstream of society, whatever the inherent neutralities of scale possessed by the latest innovations in telecommunications technologies.

There is another side to those technologies, from the standpoint of rural areas. They may free the resident of a large urban area to choose a nonmetropolitan location, but once in that location, they will also free the rural resident to consume and invest from electronic catalogues and in metropolitan-centered financial institutions. Part of the locality basis for nonmetropolitan economic activity may be further weakened by these changes. Rural development policy must anticipate that possibility and prepare for it.

CONCLUSION

The question of why the nonmetropolitan migration turnaround did not take place in the 1950's and 1960's acquires a new importance as the 1980's usher in the information age. Preferences for living in smaller-sized places have been long held. Those preferences were constrained in earlier decades by the socioeconomic isolation of rural places. Telecommunications changes hold the potential for further reducing social isolation in rural America, but also the potential for once again economically disadvantaging rural areas. Rural development programs of the present and near future that are responsive to the new infrastructure requirements of the information age may influence the outcomes of these technological and economic changes for the millions of people who live and work in rural society.

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RURAL INFRASTRUCTURE: A LOOK AT THE POLICY ISSUES

By Patrick J. Sullivan and J. Norman Reid*

In recent years, both public officials and the popular press have drawn a great deal of attention to the condition of America's capital infrastructure, pointing to its emergence as an increasingly pressing national concern. Accounts in the media have reported collapsing bridges, bursting water mains, and burgeoning potholes while a number of organizations, some with a financial stake in capital assistance policy, have warned about the economic costs of delaying the initiation of a national infrastructure investment program.

The key concerns as expressed in the popular debate are that: the Nation's stock of public capital is inadequate to support continued economic growth; the Nation's infrastructure has been allowed to deteriorate beyond prudent levels; and, funds are insufficient for providing a minimally acceptable level of infrastructure. This chapter examines each of these concerns, pointing out issues of which policymakers should be aware when devising a Federal response. As with so many rural development issues, the infrastructure "crisis" is not amenable to simple policy responses.

IS THE STOCK OF INFRASTRUCTURE INADEQUATE?

It is often claimed that "the infrastructure problem" is one of shortages, and that new facilities are needed to support continuing economic growth and development [3]. Despite these claims, few systematic attempts have been made to inventory our Nation's stock of public capital, much less assess its "adequacy." The principal reason for the paucity of effort is that the information needed to make reliable assessments of the adequacy of the capital stock is expensive to collect and difficult to analyze. Those studies that have been completed suffer from serious methodological shortcomings, not the least of which is the fact that measures of adequacy and inadequacy are inherently subjective.

Since public facilities are demanded for the services they help provide, their adequacy depends on the quantity and quality of public services they produce rather than on the physical condition of the facility *per se* [16]. Facility shortfalls exist if the current capital stock's performance fails to meet the level needed to provide an acceptable level of public service. Thus, standards of adequacy should be applied to public *services* rather than to capital infrastructure. Shortfalls in the capital stock should then be determined by the least costly combination of additional capital, labor, and other inputs needed to produce the desired amount and quality of public services. This perspective recognizes the fact that large and small communities need not use the same amounts or types of capital facilities to produce their services. But it also implies that conceptualizing and measuring the adequacy of the existing stock of capital is not as straightforward as many proponents of increased capital spending have claimed.

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The need to account for demand considerations, variable input production processes, and the costs and benefits of infrastructure projects places a considerable data collection burden on those wishing to measure the adequacy of public facilities. Not only does the task entail all of the problems associated with measuring the quantity and quality of service-type outputs, but it also requires information on production technologies, input costs, environmental factors, and the demand for public services. Studies which ignore these factors tend to produce inflated estimates of capital shortages by overstating service shortfalls and ignoring less costly solutions to perceived problems.

While no study has attempted to account for all of these factors, the USDA's National Rural Community Facilities Assessment Study (NRCFAS) initially attempted to address many of the concerns outlined here. Unfortunately, the study as eventually funded fell far short of attaining the initial NRCFAS goals. Nonetheless, it still represents the most comprehensive study of the existence and condition of public facilities serving rural communities completed to date [14].

The general conclusion drawn from the NRCFAS is that most rural Americans have access to at least some of the services produced by the public facilities inventoried. Researchers found that virtually all rural cities with populations of 2,500 or more, and a majority of smaller cities as well, had access to each type of public facility studied. The picture in unincorporated rural areas is quite different: many more gaps in the availability of public facilities were found for open country areas and for unincorporated communities [15].

These findings neither prove nor disprove the assertion that the supply of rural infrastructure is inadequate. Nonetheless, the results suggest that an inadequate supply of public facilities may be a growing problem for many rural communities. While rural communities of all sizes grew rapidly during the 1970's, population expansion was especially rapid in the smallest cities and in unincorporated areas—precisely those the NRCFAS found most lacking in public facilities. When coupled with the fact that many of these communities lack the organizational structure to deal with major capital projects, it seems likely that the pressures of growth may have resulted in overburdened facilities.

Is Deterioration of Infrastructure Out of Control?

For many, the "infrastructure crisis" is a result of widespread deterioration in the physical condition of our public capital stock. Investment trends, selected case studies, and anecdotal evidence all suggest that some disinvestment in public infrastructure has taken place over the last decade. However, the speed and recent direction of this trend, and whether or not it represents a widespread problem, remain unclear.

The evidence that investment in public capital has been declining since the late 1960's is irrefutable [3]. However, this trend does not necessarily imply that our infrastructure is crumbling beneath our feet. Shifts in the demand for new capital help determine investment trends, and it seems likely that demand for several types of facilities has declined over the last 15 years. Lowered birthrates and an aging population have resulted in less need for new public school construction; the near completion of the interstate highway system has reduced investment needs in this area; and a trend toward privatization of public service provision has eased the need for public investment in many communities.

While these developments go a long way in explaining the decline in public investment, researchers have found that during the 1980's, the growth rate of the "demand adjusted" stock of public capital has fallen far below the growth rate of our private capital stock [8]. When depreciation and inflation are taken into account, net investment in State and local government structures was close to zero in the early 1980's and may have been negative [7]. Thus, there is convincing evidence that, as a Nation, we have been disinvesting in public capital.

Although disinvestment doesn't have to result in deterioration, evidence from an Urban Institute study suggests that municipal expenditures for maintenance and repair were not sufficient to prevent deterioration in most types of infrastructure during the 1970's [11]. Although widespread, the problem was judged to have reached serious proportions in only a limited number of fiscally distressed cities [7]. It seems likely that city officials, faced with increasingly tight budgets, undertook a strategy of deferring maintenance on their capital stock to free-up funds for more immediate problems. Such a strategy, if followed for too long, invariably leads to a marked deterioration in the physical condition and productivity of the capital stock.

While the Urban Institute's work was concerned exclusively with the condition of urban infrastructure, fiscal stress is not limited to large cities. Research has found that during the 1970's, small, isolated, rural communities may have experienced fiscal pressures equal to those afflicting the largest urban centers [12]. It seems likely that many rural officials, faced with the same difficult allocation decisions as their urban counterparts, also chose to defer maintenance. If so, the public capital stock may have undergone serious deterioration in some rural communities, although there is no evidence supporting arguments that this condition is widespread.

IS FINANCING INSUFFICIENT?

Decreasing real levels of Federal intergovernmental aid, high tax-exempt bond yields, and the uncertainties caused by proposed Federal income tax reforms have all tended to disrupt traditional capital financing techniques. When Federal dollars are unavailable, interest rates are high, and local property owners are reluctant to approve tax increases, local officials and others can be excused for claiming that financing is unavailable for needed infrastructure projects. However, if the beneficiaries of public works projects are unwilling to pay for their construction, it is somewhat misleading to view underfunding as a public policy problem. From this perspective, massive increases in Federal funding (either directly through intergovernmental aid or indirectly through the tax code) for capital projects are unlikely to lessen the perceived level of unmet needs.

Data on investment trends in public capital show that public investment declined in the 1970's when Federal intergovernmental aid was increasing at an unprecedented rate. Many argue that this negative correlation is not due to pure chance, but that Federal grant regulations and funding uncertainties have distorted local decisionmaking, resulting in poorly timed and ill-advised capital projects [7, 8]. For rural governments in particular, Federal assistance has often led to the adoption of inappropriate technologies [18].

While many of the "ills" of previous Federal programs can be corrected, a basic flaw in relying too heavily on intergovernmental assistance to finance infrastructure is endemic—those demanding infrastructure are not required to pay for its construction. Subsidizing capital projects through Federal intervention naturally leads to inefficient investment decisions. This is not to suggest that financing infrastructure should be the sole responsibility of State and local governments. The Federal Government has a legitimate role to play in financing the activities of subnational governments. But if financing schemes are to contribute to efficient infrastructure decisions, then project costs have to be equated with project benefits. The Federal contribution should be in proportion to the *national* benefits of infrastructure projects. For most types of infrastructure, such a rule implies that a high percentage of infrastructure costs should be financed locally.

The efficiency of investment decisions is also affected by the methods used to finance the local share of infrastructure projects. Here too, those benefiting from a project should be asked to bear the costs. By relying more on user fees and special allocation bond financing, and less on general purpose taxes, local officials may better judge what their constituents want when faced with the price of providing additional public capital [17].

For some financially strapped cities and towns, the lack of an adequate revenue base to finance needed public facilities is the root of their infrastructure crisis. But for the vast majority, a misallocation of financial resources, rather than their lack, is more likely to have been the cause of real infrastructure problems, and a contributing factor to a perception that the problem is larger than it actually is.

WHAT IS THE FEDERAL ROLE?

The Federal Government plays a key role, together with State and local governments, in providing public services throughout the Nation. In some cases, the Federal Government provides these services directly. But for the vast majority of infrastructure-intensive services, the Federal role is one of assisting State and local governments provide public services. Federal assistance may be warranted when activities undertaken by one jurisdiction substantially benefit citizens of other jurisdictions or when widespread market failures affect the ability of subnational governments to provide minimally acceptable levels of public services. For example, economic justification can be made for some level of Federal assistance in the treatment of wastewater because of the benefits enjoyed by downstream communities. Likewise, the presumed failure of private capital markets to adequately meet the capital needs of rural communities has been used to justify Federal credit programs. A Federal role can also be justified to insure that all regions of the country share the Nation's wealth, and to improve coordination of infrastructure projects which cross State boundaries [9].

The Federal Government can fulfill its role of supporting State and local government provision of services in several ways: by aiding in the collection and dissemination of information, by providing intergovernmental financial aid, and by helping to improve the management capacity of rural governments.

Improving Information About Rural Infrastructure

Sound decisions about capital investments require good information about both needs and alternatives. Frequently, however, the information available is neither reliable nor appropriate. Improving the supply of good information is a prerequisite to improving both local investment decisions and State and Federal policymaking.

Two types of information needs can be identified. Most obvious is the need for more accurate and timely data—descriptive information about infrastructure condition and unmet needs. But just as important, if less apparent, is improved knowledge about the processes for producing the public services themselves.

Specific information needs differ considerably from one level of government to another. Local decisions tend to focus on specific capital projects and thus require detailed statistical data describing individual facilities and localized trends. The Federal Government, through its data collection activities, cannot meet all local government needs for this kind of information. However, based on its programs of research, it can assist local and State government efforts by defining concepts and developing methods for measuring them.

The Federal and State governments make numerous policy decisions of their own that affect rural facilities. Judgments about such questions as needed levels of intergovernmental assistance and how funds ought to be allocated require data that, while less detailed than that needed by service providers, are still extensive. The adequacy of existing national data about facilities and facility needs varies considerably from one service to another. For some, notably roads, bridges, and wastewater treatment facilities, well-established data systems exist that permit regularly updated estimates of national investment needs.

In other areas, data are available only sporadically, if at all. As a result, most assessments of national needs for capital investment are based on unsystematic and sometimes flimsy evidence. And in nearly all cases little attempt has been made to identify separately the local investment needs of rural communities. The National Rural Community Facilities Assessment Study (NRCFAS) attempted to inventory selected public facilities and measure their capacity. However, the data collected by this study were far too limited to support reliable estimates of the investment needs of rural communities [14]. Furthermore, data were only collected for a single point in time and thus do not permit assessments of whether conditions have improved or worsened in recent years. To support this kind of assessment, regular inventories of the rural public capital stock are needed.

Valuable as data are, they can be used effectively only when one knows what to do with them. To support appropriate decisions, policymakers need knowledge about the important components of public facilities, the factors that affect them, and their interrelationships with other variables. Through its research activities, the Federal Government has an important opportunity to promote better understanding of the infrastructure problem, the causes of growth and decline in demand for capital facilities, and the ability of public authorities at all levels to respond to these changes. By developing improved methods of measuring important variables, such as the external costs and benefits of public services, Federally-funded research can improve the ability of State and local governments to gather data and apply it effectively to public decisionmaking (16).

Financing Public Capital

Continuing high budget deficits and the narrowing view of the proper scope for Federal action suggest that the Federal Government will play a much smaller role in funding public services than it has in the past. Still, some level of continued Federal involvement in financing local and State capital facilities seems assured; for maximum benefits it is imperative that Federal programs be carefully thought out, and well-executed.

Federal aid should be allocated toward meeting investment needs unlikely to be filled by State and local governments on their own. In determining where limited Federal dollars should be spent, two criteria should be considered. First, Federal funds should be targeted toward those communities and regions that lack sufficient resources of their own to pay for service levels deemed minimally acceptable by national standards. And second, Federal funds should be used to assure that needed projects are undertaken where the project benefits "spill over" local or State boundaries.

Care is also needed in designing intergovernmental aid programs. Too often, Federal aid has supported the construction of infrastructure—wastewater treatment plants, bridges, and buildings—when these were but a means to an end. What is often forgotten is that the goal is to improve local services, not build public monuments, and that capital facilities are merely one of several inputs that contribute to its attainment. Especially in rural settings, infrastructure can sometimes be replaced by labor or by alternative methods of service provision that use less capital. These methods are often much less costly, and still yield acceptable levels of service. Aid programs that ignore this fact assure that public funds—either Federal or State and local—will be spent needlessly.

Improving Local Management

Studies have identified inadequacies in local facility management as an important dimension of the Nation's rural infrastructure problem [5]. *Many rural jurisdictions have few full-time employees,* which limits their ability to devote sustained attention to facility issues [2, 10, 13]. It is often hard for them to find skilled personnel or keep them from leaving for better paying jobs [5, 10]. Although they can hire consultants to get specialized skills, consultants often lack the information and perspective needed to develop solutions that meet a community's unique needs [1, 5, 6].

The success of a locality's infrastructure program depends on management's efficiency in carrying it out. Few rural governments (or urban, for that matter) systematically evaluate their capital facility needs, schedule repair and replacement, or budget for facilities over their useful life. Poor performance in any phase of facility design or operation—from planning, design, and construction through to maintenance and repair—is a weak link in the total chain and can lead to poor services or excessive costs. No estimate exists of the resources wasted due to poor facility management, but it seems likely that they are considerable. In many cases solving management problems is a cost-effective way of reducing or avoiding facility problems. Thus, finding ways to improve the effectiveness of capital facility management belongs on both national and State agendas.

Local decisionmakers need answers to such questions as how much investment to undertake, when to time it, what technology to use, when to repair and when to replace, and, if user demand has slackened, how to reduce the existing stock of capital facilities. The need for help in answering such questions is especially acute in rural areas. Techniques to aid decisionmaking have been developed for many services [4], but for others little help is available. Tools for decisionmaking depend on research in economics, public administration, and other areas, and the problem is due in part to insufficient or outdated research. The research programs of the Federal Government, as well as State universities, can contribute greatly to improving the knowledge base concerning public services. But the problem also results from failing to use existing knowledge in the best ways, by not disseminating it to the right people or by sharing it in forms that are inappropriate for use by rural and small town officials. There is an important role for the Federal Government in the extension of research knowledge to local public officials as well.

CONCLUSION

The "infrastructure problem" is not one-dimensional. Determining if an infrastructure problem exists and measuring its severity involves careful analysis, which represents only the first step in devising an appropriate policy response. Where infrastructure problems are judged to be severe, policymakers must also know the underlying causes of the problem if cost effective solutions are to be developed and initiated. The circumstances contributing to an inadequate public capital stock include: inadequate revenues; inappropriate financing techniques; insufficient recordkeeping and data collection; a lack of knowledge about the determinants of infrastructure demand and the technological options available for addressing that demand; and inadequate facility management. Problems in any one of these areas can lead to poor and costly decisions on the construction and maintenance of the public capital stock. In an era of ever-tightening public budgets, far greater consideration needs to be given to how public funds are utilized in addressing rural infrustructure needs.

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RURAL ROADS AND BRIDGES

By George L. Berg, Jr.*

For many decades, the success of American agriculture has been directly related to the ability of our transportation network to respond to the essential marketing and transportation needs of an expanding agricultural economy. Agriculture and rural areas in general must rely on rail, highways, waterways, and to some extent the airlines to move inputs such as fertilizer and equipment into rural areas and to carry agricultural commodities out to domestic and foreign markets.

Without an adequate transportation system, rural Americans and the agricultural community would not be able to produce or market the commodities that currently feed and clothe the Nation and help reduce the national trade deficit. Transportation problems are not new to agriculture or to our rural citizens. Periodic truck, railcar and barge capacities, actual and threatened branchline abandonments, and the gradual deterioration of rural roads and bridges have concerned agricultural shippers, receivers, and rural communities for many years. New issues have arisen at a time when changes and deficiencies are taking place against a background of uncertainty. Concern about inflation, high interest rates, energy and the need to increase exports pose policy questions for all segments of the economy and particularly for agriculture and transportation.

The U.S. agricultural community can produce more food than the nation needs but it can export the surplus only if there is an adequate and reasonably predictable supply of transportation equipment and service. Modern agriculture requires a multi-modal transportation system that can move large volumes of commodities economically while allowing for considerable flexibility. We depend upon each of the three primary surface transportation modes.

Since the future in transportation, as in many fields, is determined by the events of today, we should look at how today's events will shape the futu~~re of~~ highway transportation from an agricultural and rural perspective, for the remainder of the twentieth century.

As background, the federal-aid highway system makes up only one-fifth (828,526 miles) of the Nation's highway network but carries four-fifths of travel. The Federal-aid system is divided into five categories which includes the interstate, primary, rural secondary, and urban systems. The fifth category is the bridge program.

Our Nation's highway system, made up of some 3.9 million miles of Federally-aided and nonfederally-aided roads and highways, is a valuable national resource. Our highways serve approximately 160 million vehicles traveling more than 1.5 trillion miles annually. It is no wonder it is often called the "backbone of our Nation's transportation system."

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The Federal-aid highway program has been one of the most successful, long-running, cooperative partnerships ever undertaken by Federal and local governmental agencies. Federal funds raised from Federal highway user taxes are supplied to state and local communities on a matching ratio basis for carrying out capital highway improvements. Over the years, the process has developed the safest, most efficient highway system in the world, giving Americans unequaled mobility.

Until recently this trillion dollar Federal highway network, the largest single nonmilitary investment in our nation's history, was wearing out faster than it was being replaced. We are talking about a highway project that was bigger than the building of the Pyramids of Egypt, bigger than the engineering of the Panama Canal, or bigger than the creation of the Great Wall of China.

The rural secondary system was established in 1944 as a farm-to-market system. It grew out of effort, begun in the depression, to put people to work paving rural roads. The system was realigned by Congress in 1976 to include only rural major collectors, roads that serve county seats, major farm areas, and some industries located in rural areas. The secondary road system is in the poorest condition of all systems. Given its extent (401,000 miles) and its relatively high usage, it is not surprising that the secondary system has been unable to keep abreast of the other systems, particularly when other more heavily used roads compete for scarce funds. According to the Federal Highway Administration, almost 40 percent of the secondary paved mileage either requires, or will shortly require, capitol improvements.

Since rural roads are off the Federal-aid highway system and are financed and maintained exclusively by State and local governments, there is very little data kept by the Federal Highway Administration on the actual deterioration of the secondary roads or the rural road system.

New technologies have increased agricultural production in every state and this technology has taken its toll. Many of today's rural roads and bridges were built in the early 1900's when agricultural transportation was limited to the horse and wagon. The automobile and small truck industries boomed during the 1920's and '30s, and the cry was to get the farmer and rural America "out of the mud". Technological advances also resulted in larger mechanical farm and forestry equipment, pesticides, herbicides, fertilizers, lime, new type buildings, improvements in crop and livestock breeding, and enlarged livestock feeding. All of these greatly increased farm and forest productivity.

As farm productivity and efficiency increased, feed, fertilizer, petroleum, grain and other input delivery trucks, bulk milk trucks, and other specialty trucks became larger. Another reason for increased size and use is the steady deterioration and abandonment of many railroad lines. These were important to agricultural and forestry production because they carried the extremely heavy, bulk products to and from the producing areas.

Rural roads and bridge maintenance and improvements have not kept pace with the rapidly increasing needs of agriculture. Most were constructed before 1940 and cannot handle the increased weights and widths of today's machinery, trucks, school buses, fire equipment, etc.

The agricultural industry depends at some point on local road and bridge transportation. All highway studies have acknowledged the poor condition of local roads and bridges but they have usually failed to recognize their economic importance to every citizen in the state. They are essential to agriculture, forestry, rural tourism, rural industries, rural living, essential services, and general state economic development. Rural roads and bridges are, indeed, a vital link to agricultural prosperity.

Agriculture is our Nation's largest industry. It is also the Nation's largest employer. Around 22 million people work in some phases of agriculture from growing food and fiber to selling it at the supermarket.

In 1983, consumers spent $298 billion for U.S. farm produced food. About $214 billion of that was to get the food from the farm to the dinner table. More than 400 million tons of this food was grown, assembled, inspected, graded, stored, processed, packaged, wholesaled, and retailed. To reach the consumer, this overwhelming bulk of food and fiber traveled across 177,400 miles of railroad, 3.2 million miles of highways, and 26,000 miles of waterways.

The supplies and equipment that our farmers use in producing their crops are all hauled by truck or by rail to the rural locations where they are used. After the crops are harvested, all modes of transportation (truck, railroads, barges, and ocean vessels) are utilized to move the commodities to the people who want and need them. Modern agriculture also requires the use of heavy equipment and machinery which must travel on rural roads and bridges.

Other industries have similar needs but in agriculture any disruption of the transportation system is most certainly reflected in the prices that our farmers received for their commodities. Agricultural producers are subject to a number of hazards, such as floods, storms, hail, and drought. Therefore, deterioration of our rural roads and bridges is a major concern to our farmers and ranchers because they are critical to the efficient and dependable transportation of agricultural products.

The transportation services that are required for agribusiness, and more specifically for the heavy volume of grain, generally consist of three separate and distinctive movements: (1) from the field to the country elevator, (2) from the country elevator to the larger elevators at grain marketing centers, and (3) from these large elevators to either ports for export movement or to major grain processing centers where it is converted into food for the table or feed for livestock.

Obviously, rural roads and bridges do become involved in the first transportation step from the farm to the country elevator. In the early days, grain as well as fruit and vegetables moved from the farm to the elevator or market by horse and wagon and the location of the elevator and markets were pretty much set by the distances that a farmer could conveniently travel one or two times a day during the harvest period.

These country elevators required rail service to tie them to the regional elevators. Today, however, we find much of the Midwest with an excess of railroad branchlines which were designed to meet the needs of a horse and wagon agricultural economy. During the past few years, many of the railroads have abandoned these lines because of their unprofitability. It should be emphasized that when a railroad branchline is abandoned, there are several companion effects that impact on rural communities. These include greater demand upon highways and bridge facilities, with increased road costs, less efficient energy use, greater air pollution, and increased taxes.

BRIDGES—A SPECIAL PROBLEM

Farmers recognize that we have a substantial bridge problem in the United States. Bridges help maintain the vital transportation services that are necessary for agriculture and rural development. Bridges allow vehicles to move with ease across this country. They allow cities to function, make truck transportation feasible, and they permit farmers to move modern equipment to their fields and transport their products from the field to the marketplace.

We in agriculture are proud of the fact that we have the most productive and most efficient system of agricultural production to be found anywhere. We are reminded, however, that all of that production on our farms and ranches is of little value if we are unable to move it to market in a timely, economical, and efficient manner.

Agriculture is unique from many other industries due to its sparse population, geographic features, and highway patterns. The sudden loss of a bridge on a primary or secondary road would have a serious impact on farm economy and rural communities in general. A section of highway can be poor but still serviceable. But the loss of a bridge can cause long-term disruption to the transportation of agricultural commodities. This is why we believe that providing adequate highways and bridge facilities is a proper role of government at all levels.

When Congress approved the Surface Transportation Assistance Act of 1982 (STAA), it finally recognized the seriousness of our Nation's bridge needs. Not only did the Act increase funding for bridges, but it also made a number of changes in the manner in which the program is administered.

Congress began the bridge program in 1970 when it authorized $816 million through FY 1978. The STAA of 1978 replaced the original program with a new one called the Highway Bridge Replacement and Rehabilitation Program and in 1982 Congress authorized $7 billion for FY 1983 through FY 1986 in order to continue improvements on the public highways throughout the Nation.

The Federal Highway Administration's bridge program is divided into two categories: (1) apportioned funds which are disbursed according to relative state needs and (2) discretionary funds which are set aside for use by the Secretary of Transportation to replace or rehabilitate deficient, critically needed, high-cost bridges on the federal-aid system. The Federal share is 80 percent of the eligible bridge costs.

While there are a number of factors which determine eligibility for assistance under each of these categories, the fact remains that highway bridge deficiencies nationwide is a subject of widespread and growing concern. It will take billions of dollars if we are to replace or rehabilitate the 314,000 bridges that are today considered deficient in one way or another. According to the 1984 Annual Report of the Highway Bridge Replacement and Rehabilitation Program, it would cost $47.6 billion to replace or rehabilitate all the deficient and obsolete bridges in the United States.

A structurally deficient bridge is one that has been restricted to light vehicles only, is closed to traffic, or must be rehabilitated immediately to stay open. As of January 1, 1983, there were 126,655 such bridges, roughly one of every five in the country.

A functionally obsolete bridge is one whose narrow lanes, load carrying capacity, clearance, or approach roadway alignment can no longer safely serve its current traffic load. There are 121,872 functionally obsolete bridges, also, roughly one of five. According to the bridge report, there were a total of 3,416 bridges closed temporarily for repairs or closed permanently, and this figure is increasing each month.

Highways which receive Federal aid comprise only about 20 percent of the Nation's total roads and streets but carry about four-fifths of all U.S. motor vehicle travel. On the federal-aid system, 67,696 bridges—26 percent of the 259,950 bridges—are structurally deficient or functionally obsolete.

The bridge report notes that the number of deficient bridges on the federal-aid system will increase, and that bridges on the primary and interstate systems are already beginning to deteriorate rapidly. Age, weather, erosion, vibration, decay, and metal fatigue are all factors in bridge deterioration. Increased traffic and heavier vehicles have also hastened their deterioration. The bridge report noted that 205,828 (37 percent) of the Nation's bridges are over 40 years old, including 1,145 interstate bridges. The interstate bridges were on existing highways which were incorporated into the interstate system when it was created in 1956.

The vast majority of deficient bridges in the country are on local roads and streets where one of every three bridges is structurally deficient and one of every four is functionally obsolete. These are the bridges that are most important to agriculture and to agricultural related industries. These bridges, generally located in rural areas with low volumes of traffic, are usually the responsibility of local and State governments. A total of 180,831 deficient bridges in the U.S. are off the Federal-aid system. The off-system bridges have never been completely inventories, but the 297,566 local bridges included in the bridge report represent an estimated 96 percent of all local bridges in the country.

In 1983 the General Accounting Office submitted a report to the Secretary of Transportation on how Federal assistance for bridges off the federal-aid highway system can more effectively address the sizable off-system bridge problem.

The General Accounting Office report found that as of September 1983 the States had obligated about $3.7 billion of the $4.5 billion of FY 1979 to 1983 bridge program funds apportioned to them. Over $700 million, or about 19 percent, of total obligated funds was for the off-system bridges. This amount for off-system bridges will continue to grow as overall program funding was increased from the $4.2 billion for FY's 1979 to 1982 to a little over $7 billion for FY's 1983 to 1986. The funds being obligated for off-system bridges are indeed rural bridges.

In spite of the substantial increases in funding, the program is still severely strained by the magnitude of the bridge problem. The Federal Highway Administration has estimated that it would cost $22.2 billion to replace or rehabilitate off-system bridges that are currently deficient, not to mention the costs resulting from further deterioration.

The basic dilemma that confronts the program is how to replace or rehabilitate as many bridges as possible with the limited funds available. The General Accounting Office found that costs to replace a given bridge can vary by thousands of dollars, depending on which state the bridge is in, who is paying for its replacement, and who makes the decisions on its design and construction. Some of these cost differences are due to varying climate, terrain, and methodology. Different policies at the local, State, and Federal levels are major factors.

Federal, State, and local officials often disagree on the level of funds that should be committed to replace or rehabilitate an off-system bridge. Local governments using their own funds tend to build bridges that cost much less than bridges built by State highway departments. The States also differ in the type and cost of the bridges that they build.

Due to limited funding, many State and local officials must also decide when they should "quick fix" and where do they make the "prudent investment" for highway and bridge facilities. Because of projected traffic growth in some areas of the country, the "quick fix" or the "prudent investment" must be weighed against the "in between" option on a site-by-site basis. Many States and many rural communities have found that narrow dirt roads can turn into housing developments overnight.

CONCLUSION

As much as agriculture and our economy depends on our rural roads and bridges, it is apparent that the present state of the bridge problem will not be remedied satisfactorily until a very large amount of money becomes available for that purpose, and that appears to be an unlikely prospect for the immediate future. Ultimately, if we are going to keep America moving, then those who benefit from our rural roads and bridges, which include every American, will be called upon to bear the burden, either through increased user charges at the State and Federal levels, increased usage of bridge tolls, additional funds from general taxation, or some combination of user fees.

Farmers and those living in rural communities are very much a part of the American scene. They not only want and need improved railroad, waterway, and highway facilities, our farmers and ranchers want to be involved in the whole spectrum of transportation in America. We want a high quality surface transportation system that will serve us today and that will endure for future generations. Rebuilding our rural roads and bridges has been mostly a local responsibility. Local communities are providing the money, the heavy equipment needed for highway maintenance, the funds for bridge replacement, and all the other expenses that are necessary to link rural communities to the primary and interstate highway system.

As a result of this expense, a basic dilemma confronts our rural Americans on how best to use their limited funds to address their sizable highway and bridge problems. Questions have been raised as to how much responsibility does the Federal Government have towards these rural areas? How much responsibility does the State assume and how much more property taxes can property owners afford to pay? The Federal Government does have an interest in how funds should be shared from the standpoint that the agricultural community is feeding the American people very well and generating thousands and thousands of jobs. Agriculture also provides an enormous contribution to our balance of trade. No other category of U.S. shipper plays such an important role in this country's international commerce than that of agriculture.

Rural America is facing a bigger challenge today than at any other time in our Nation's history. Revenues for roads and bridges, as well as other government programs, must either increase significantly or programs must be reduced. Farmers, ranchers, and other citizens living in rural communities realize they are in a situation that will require the very best they have to offer. Although their concerns are critical, they are not regarded as overwhelming. They will learn to innovate, or find new sources of funding, or learn better ways to do the same things they have been doing with less money. Rural Americans are concerned about their future but the challenges that lie ahead will force them to determine their own priorities.

As transportation participants, we strongly believe that government and the private sector, working together, must improve our Nation's transportation facilities now so that we can keep pace with the advances and technology that are taking place in transportation throughout the world. We have the capacity as a Nation to meet these challenges if we plan for change, tailor our technology to our needs, and invest in America's future. That will make us strong—it will make us competitive—and that will provide a sound and efficient transportation system for America in the year 2000.

Business

SMALL BUSINESS AND THE FATE OF THE RURAL ECONOMY

By John Sloan Jr.*

The course of our national history has been shaped by great crises. In each of these critical times—during wartime, the Great Depression, and the "dustbowl" as examples—the strength and inventiveness of the American people has not been found wanting. Indeed, we are known as a Nation that thrives in adversity.

Today we face a new crisis in the rural economy. Farm income has declined dramatically since the late '70's, and agricultural land values have plummeted at the same time. Rural bank failures as numerous as during the Depression represent both a consequence of, and a factor in, the malaise of the farm economy. This malaise, with its origins rooted in problems specific to the Nation's farms, is now generalized in the whole rural economy. It will not be long before the eroding farm base and the debilitated rural economy begin to weigh on the strength of the economy as a whole. Therefore, the crisis in the rural economy is really a national crisis and one that will require hard choices and innovative approaches on the part of policymakers at the State and National levels.

The National Federation of Independent Business (NFIB) is an association of more than 500,000 small and independent firms nationwide. We represent a cross section of American small business with members in all types of enterprises and in all areas of the country. One-third of all our members are located in rural areas with some 10 percent directly involved in farming—either as farmers or as farm suppliers. Even those of our 170,000 rural members who are not directly involved in farming are in some manner dependent upon it for their livelihood. Furthermore, it can be inferred that a majority of our nonrural members are in some respect affected by the rural economy—perhaps as merchants of farm produce or as down-the-line beneficiaries of farm income. This explains the critical importance of the farm crisis to NFIB and why we are so interested in helping to shape the solutions that must be found.

SOURCES OF THE FARM CRISIS

It is NFIB's view that the present farm crisis has its roots in the fundamental vulnerability of the farm economy itself. Just as no nation producing only a single commodity can hope to be free from the violent ups and downs of shifting demand for that commodity, so the rural economy will not be free from the harsh consequences of agricultural cycles until it becomes more diversified.

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Farm policy since World War II has in many respects perpetuated the all-eggs-in-one-basket quality of the rural economy and has exaggerated the effects of the agricultural cycle—exacerbating the downswings by encouraging oversupply and accentuating the upswings by rewarding marginal producers. Thus, while the goals of our farm policy have been to sustain farm capacity and income and to moderate the effects of agricultural cycles, the opposite has occurred in spite of this policy—and to some extent because of it.

Does it follow, then, that the complete elimination of government involvement in the farm economy will restore equilibrium and achieve other policy goals that have thus far been elusive? The answer depends upon the kind of farm economy one favors for the future and the kind of risks one feels are appropriate for our national economy. A policy ending all government involvement in the farm economy—especially one providing no transition period—would have the effect of dramatically reducing the supply of agricultural produce and raising the price for such commodities. This would restore some price and supply equilibrium to the agricultural economy, but in the long term it would not make the agricultural economy less vulnerable, but more so. In all likelihood many small family farms would be eliminated by such a policy, dramatically increasing rural unemployment and centralizing agricultural production in the agribusiness sector. An agricultural economy dependent upon fewer producers is less able to respond to fluctuating domestic demand and the vicissitudes of pests and the weather—especially if these producers are large operations unable to adjust their production techniques to changing conditions.

NFIB believes that there is room for a farm policy that places reduced emphasis on government assistance but recognizes that agricultural production—because of the time and risk components involved—does not fit into the classic free market economic model. We take it as a given that the recent history of farm programs has been abysmal, that the practice of substituting government largesse for farm planning and market discipline has not prevented farms from failing and has not averted the inevitable crisis of hyperproduction. Therefore, we propose the gradual phase-in of market-oriented farm policies, reducing the cost of support programs by reducing their levels significantly. Our small business membership feels that stability in the farm economy—one preserving the greatest number of producers of all sizes—can be achieved only by using farm assistance as a tool for dealing with emergencies and not as a standing subsidy program.

Would such a policy be without hard consequences for farmers? No. Dramatic reductions in farm price supports, even if in the form of phased reductions, would force some farmers out of business—even some debt-free and efficient farms would be effected. But who else would share the cost of this adjustment? The American consumer, who for some time now has enjoyed the luxury of a comparatively low percentage of disposable income being obligated toward food and other agricultural products. Thus, if a reasonable level of farm income is to be restored (and through it, stability in the farm economy), then some people are going to have to stop farming, and the American people are going to have to be willing to pay higher prices.

What remains to be asked is whether a farm policy that is more market oriented will, by itself, restore *lasting* equilibrium to the farm economy and to the larger rural economy that is dependent upon it. The answer must be no, for once more reasonable farm programs are in place, steps must be taken to reduce the vulnerability of the rural economy by encouraging much greater diversity.

SMALL BUSINESS AND THE FATE OF THE RURAL ECONOMY

The 1980's have been dubbed the "Age of the Entrepreneur," so it is not surprising to find that the fastest growing sector of our economy is the small business sector. Firms with fewer than 100 employees are the leaders in job creation and innovation, and they are among the most durable enterprises in our country. It is no exaggeration to note that small business—virtually by itself—pulled America out of the last recession. It is NFIB's view that the strengths of the small business sector could be put to use in the rural economy, helping to make it more durable by making it more dynamic.

There is already a strong small business base in most rural communities on which a more diversified economy can be built. Quite clearly the service sector is an area that can be exploited for small business development in rural areas. As our economy changes there are increasing opportunities for data processing, claims handling, telemarketing, and other similar work that can be done with little training and in the home. At the same time, the manufacturing sector, especially "high tech" and light manufacturing, offer possibilities for development of rural communities. This is not to mention the potentially unlimited possibilities for retail concerns on Main Street and out of the home. What is necessary to bring these possibilities to fruition is a concerted effort on the part of states and localities to create strategies for small business development, a system for enhancing financing opportunities, and better delivery of job training programs.

In many farm states and in many rural communities, the transition to a more diversified economy is already under way. South Dakota, for example, created favorable tax and business conditions which encouraged a major credit card company to locate its processing facilities there. In Iowa a group of small businesses have formed a loan guarantee firm that provides seed capital to new and expanding businesses. Elsewhere, States have employed enterprise zones and other innovative techniques to help small firms get started. Thus, in spite of conditions in the rural economy that now appear bleak, there are signs of new growth and of change. If America is to overcome the crisis in our rural communities, however, we must not shirk the hard choices necessary to set a new course for the Nation's agricultural economy, and we must devise and implement programs to diversify the rural economy through business development. Small business is the key to achieving this diversified, dynamic economy.

COMMERCIAL BANKING SYSTEMS SERVING RURAL COUNTIES: THEIR CURRENT STRUCTURE AND FUTURE PROSPECTS

By James J. Mikesell, Daniel L. Milkove, and Patrick J. Sullivan*

Banks have historically played a prominent role in supplying credit and financial services in all communities, but they are especially important within rural markets that lack easy access to other financial institutions. And while financial deregulation and recent innovations in communication and information technology have increased rural linkages with national financial markets, local commercial banks remain important to the efficient operation of many rural economies [8]. This chapter assesses the current structure and financial condition of the commercial banking systems serving rural America, and poses some unanswered research questions on their ability to continue providing a stable local source of credit to farmers and rural businesses, households, and governments. Since problems in the agricultural sector are currently affecting rural banks, the conditions of agricultural banks and banks serving agricultural areas of the country are highlighted throughout the chapter.

Characteristics of Banks Headquartered in Rural America

It has long been recognized that banks headquartered in rural America, as a group, behave differently from those headquartered in urban America. they tend to have lower loan-to-deposit ratios, register higher profit rates, hold relatively few long-term securities, and sell excess reserves on the Federal funds market—all indicating more conservative bank behavior by rural bankers [9]. This pattern reflects differences in the characteristics of banks, and bank markets, in rural and urban communities. Bank size, State laws governing bank branching, type of bank ownership, and the industrial mix and general economic conditions in a bank's service area can all influence bank portfolio decisions. Thus, while rural and urban banks with similar characteristics tend to behave alike, differences in the mix of bank and local market characteristics lead to areawide differences in aggregate bank behavior [9].

Most banks headquartered in rural counties are small, and over 60 percent were "independent," one-office banks in 1983.[1] Over half are categorized as "agricultural banks" by the Federal Reserve Board, meaning they have above average concentrations of farm loans in their loan portfolios (Table 1). These characteristics are the result of two phenomena—most rural banks are located in unit banking and limited branch banking States, and many of these States are heavy agricultural producers (Figure 1). Unit and limited branch banking States restrict a bank's ability to open branch offices, particularly outside of the county in which the bank is headquartered. More bank firms are needed to service an area when branching is restricted, and most rural banks in these States lack the deposit base and loan demand needed to become large, or even medium-sized. And since small banks usually service local markets, those in agricultural areas tend to lend heavily to farmers [7].

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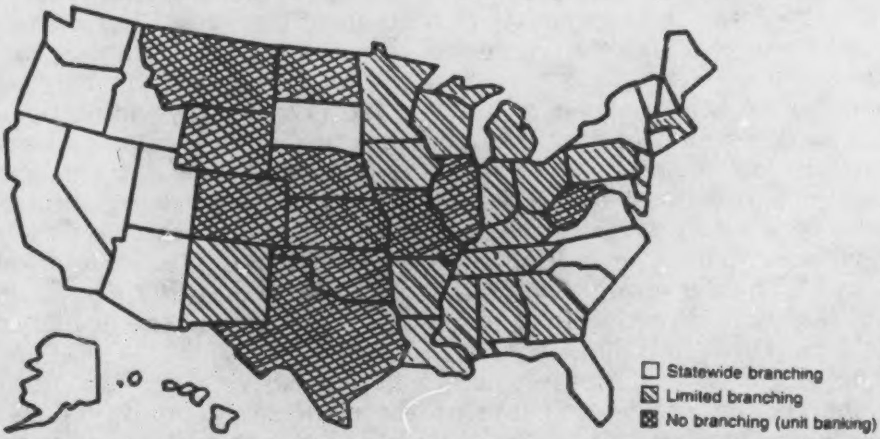
[1] Included as "independent" banks are all banking firms not affiliated with a multibank holding company. To the extent that these banks are links in a chain bank organization (i.e., two or more legally independent bank firms whose controlling interests are owned by the same individual or group of individuals), they may not behave like independent economic units.

Figure 1.
Type of bank branching by State



1982 data
Source: Board of Governors of the Federal Reserve System

TABLE 1.—CHARACTERISTICS OF BANKS, BY LOCATION OF HEADQUARTERS

[In percent]

Bank firm characteristic	Metropolitan		Nonmetropolitan	
	Banks	Assets	Banks	Assets
Asset size:				
Small (under $100 million)	70.2	7.9	92.9	68.7
Medium ($100 to 1,000 million)	25.5	19.3	7.0	27.9
Large (over $1 billion)	4.3	72.8	0.1	3.5
Holding company affiliatation:				
Multibank holding company	34.7	71.7	18.3	26.4
One bank holding company	29.5	20.9	39.4	40.8
None	35.8	7.4	42.3	32.8
Agricultural bank [1]	9.2	1.2	55.7	39.0
Nonagricultural bank	90.8	98.8	44.3	61.0

[1] Agricultural banks have at least 17 percent of their loan portfolios in farm real estate and production loans.

Source: Compiled from the June 1985 Report of Condition and Report of Income, Federal Reserve Board of Governors. Includes all U.S. commercial banks insured by the FDIC.

This juxtaposition of unit/limited branch banking and farm producing States means that the current financial problems of the agricultural sector have a pronounced impact on rural bank statistics. Over the last three years, the rural proportion of bank failures has increased sharply, as has the proportion of rural banks on the FDIC's problem bank list [2, 6].[2] As a group, profits of rural banks are lower than would normally be expected, given industrywide trends prior to the recent farm financial crisis.

Financial problems in the farm sector reflect an inability by many farm operators to make scheduled payments of interest and principal on their loans from total operator earnings [5]. A fundamental downward adjustment of asset values, with farmland values dropping steeply in the Midwest, has made these problems worse [4]. As the value of farm loan collateral declines and as more farmers fall behind on loan payments, banks must take steps to counteract the deteriorating quality of their farm loan portfolios. Federal and State regulators often require banks with loan quality problems to increase loan loss reserves, putting downward pressure on bank profits. Loan terms may become harsh since, depending upon local market conditions, banks may raise the interest rates and collateral requirements on all new loans to cover previous farm loan losses and to prevent future losses. To reduce their risk exposure, banks may also choose to make fewer local loans, investing their funds in securities, or selling funds on the Federal funds market instead.[3] Thus, decisions banks make when faced with rising farm loan losses can directly affect nonfarm borrowers and the economic vitality of rural communities [10].

The extent to which problems among agricultural banks (or any commercial bank) are transmitted to the local economy depends heavily on the structure of the local banking system. Communities that are most likely to be affected by the behavior of agricultural banks are those heavily dependent upon farming as a source of employment and income (Figure 2). These counties have experienced a relatively high incidence of bank failures in recent years and the Federal Deposit Insurance Corporation is having increasing difficulty finding other banks willing to take over the assets of these failed institutions [2]. Even in these areas, the local banking structure may cushion the impact of problems among agricultural banks. Those markets served by competitive, diversified banking structures are less likely to lose easy access to financial services. In markets served by only a few agricultural banks, the picture may be less rosy.

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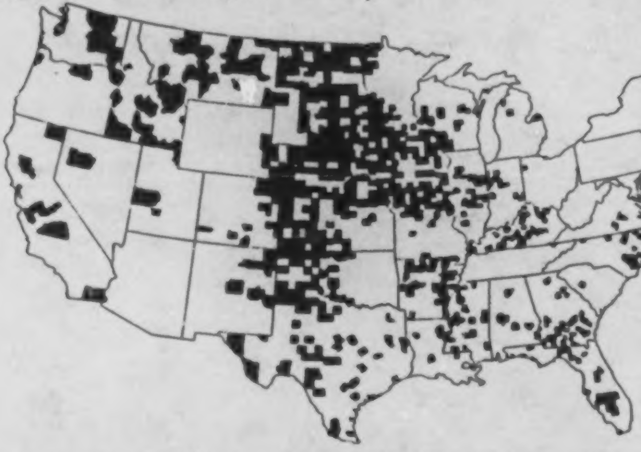
[2] The FDIC's problem bank list is confidential, and counts of the number of rural banks on the list are not routinely released. However, between June 1983 and October 1985 the number of agricultural banks (which the FDIC defines as those having 25 percent or more of their loan portfolio in agricultural loans) on the problem bank list increased from 106 to 413 (or from 22 to 39 percent of the total). Since most agricultural banks are headquartered in rural America, these data infer that the number and proportion of rural banks on the list has also increased during this period.

[3] Bernanke argues that credit rationing is a more likely response to increasing loan quality problems than is increasing interest rates if higher interest charges increase the risk of default [1]. This was the pattern in the 1930's and may be today among agricultural lenders.

Figure 2:
Farming-Dependent Counties



Note: Delineated by Bernal Green and Peggy Ross, EDD, ERS, U.S. Department of Agriculture. Counties are defined as those with 20 percent or more of labor and proprietary income from farming, 1975–79.

CHARACTERISTICS OF LOCAL BANKING SYSTEMS SERVING RURAL AMERICA

Information on the characteristics of banks headquartered in rural areas is useful, but the characteristics of local banking systems ultimately determine the cost and availability of credit for many rural borrowers. Aggregate statistics on rural bank operations are not meaningful indicators of credit conditions in individual communities. Not all rural banks, even in the same community, face identical financial decisions or exhibit the same behavior. Thus, when one or more banks have loan quality problems, or even fail, other banks serving the community often continue offering a stable supply of financial services. Then too, many rural communities are served by branches of urban-based banks, or by affiliates of statewide multibank holding companies (MBHC's). MBHC's are firms which own two or more legally separate banks, often located throughout the State, and in some cases in bordering States. Not only can the presence of these organizations increase competition within local credit markets, but their more diversified loan portfolios can help stabilize credit availability during local economic downturns.

Looking at the system of banks serving the credit needs of rural counties should give a better indication of how effectively rural America is being served. In 1983, 36 percent of nonmetro counties were served by five or more bank firms while 29 percent were served by only one or two bank firms. As can be seen from Table 2, these numbers are very different from those observed for urban America—in a fair number of rural counties, the local banking system is sensitive to the behavior of one or two banks. Not only does this leave many borrowers vulnerable should a local bank fail, but an oligopolistic local market dampens competition.

TABLE 2.—STRUCTURE OF LOCAL COMMERCIAL BANKING SYSTEMS, JUNE 1983.

[In percent]

Banking system characteristic	Type of county		
		Nonmetro	
	Metro	Total	Agricultural
Number of bank firms: [1]			
None	0	1	2
1 or 2	6	29	37
3 or 4	14	33	28
5 or more	80	36	33
Banking system includes:			
A nonagricultural bank	98	68	33
A large bank [2]	60	23	11
A large MBHC bank [3]	71	34	25
Either a large bank or a large MBHC bank	79	41	27

[1] The number of FDIC-insured commercial banks either headquartered or operating a bank office within the county.

[2] Either the headquarters or a branch office of a bank with total assets of $500 million or more.

[3] An affiliate of a multibank holding company with combined bank assets of $500 million or more.

Source: Calculated from the Summary of Deposits file, Federal Deposit Insurance Corporation and the Report of Condition and Income file, Federal Reserve Board of Governors.

While the presence of numerous bank firms may enhance competition within the local market, local banking systems, particularly those serving counties heavily dependent upon farming, may still be seriously affected by local economic downturns. If most of a county's banks are heavy lenders to local businesses and farms, the system as a whole lacks the loan diversification that is so important for stability under unfavorable local economic conditions. In 1983, 42 percent of rural counties were served by "self-contained" banking systems (that is, by banks headquartered within the county with no intercounty branches, and by banks not affiliated with a multicounty (MBHC). At the other extreme, 10 percent of rural counties were served only by banks headquartered elsewhere.[4] The remainder were served by a mix of local and nonlocal bank organizations.

Arguments can be made for and against intercounty and interstate commercial bank branching. From a borrower's perspective, it is probably best to have the option of purchasing financial services from either a local bank or the branch of a larger bank. Local bankers may be in a better position to evaluate their customers' loan requests through first hand knowledge of the community. "Outsider" banks often reserve loan decisions for the "home office" that lacks knowledge of local economic conditions. On the other hand, larger bank organizations are likely to be more insulated from local market conditions. As a result, local economic downturns may affect the lending behavior of larger banks less than they do small independent banks. In 1983, only 23 percent of rural counties (and 11 percent of farm-dependent counties) were served by a commercial bank with at least $500 million in assets.[5] Nearly all of these were in States that allow statewide branching of commercial banks. In the Midwest, where restrictions on branching are common, MBHC's represent a type of "quasibranching." If we consider MBHC's with $500 million or more in assets as equivalent to similarly sized banks, then 41 percent of rural counties (and 27 percent of farm-dependent counties) were served by a bank that is probably insulated from local economic conditions.[6] These percentages are far below those of metro counties.

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[4] This percentage includes counties that have no commercial bank offices located within their boundaries. In 1983, there were 25 such counties in the Nation.

These characteristics of the banking systems serving rural counties, particularly those heavily dependent upon farming, suggest that many are sensitive to problems in the local economy. Communities in the Midwest may be particularly affected—the small average size of their banks and the scarcity of larger, more diversified, financial institutions make their banking systems vulnerable to local economic downturns. This, coupled with a regionwide dependence on farming, makes the current farm financial crisis an important factor determining the cost and availability of locally supplied credit. Nonetheless, many rural communities are served by banking systems that effectively insulate local borrowers from isolated problems with one or two banks.

THE FUTURE OF RURAL BANKS AND THE FARM CRISIS

While the farm financial crisis, coupled with a sluggish export market and falling energy prices, has hurt many rural banks, the sector as a whole remains in sound financial shape. Rural and agricultural banks, as a group, remain a well capitalized segment of the commercial banking system. As of June 1985, only 89 rural banks were undercapitalized based on Federal Reserve Board guidelines (i.e., had primary capital amounting to less than 5.5 percent of bank assets); 35 of these were agricultural banks.[7]

Bank regulators expect the numbers of rural banks either failing or experiencing financial problems to stay at high levels in 1986, largely because of the continuing farm crisis; most are expected in the Midwest. Simulating capital positions if every bank were forced to write off a large percentage of its farm loans sheds light on the extent of possible future problems. If all banks took a 10 percent write-off on their farm loan portfolio in 1985, roughly 1,300 banks (9.2 percent of the total) would have been undercapitalized based on Federal Reserve Board guidelines—some 850 more than if bank conditions persisted as they were during 1984.[8] Of the additional undercapitalized banks, about two-thirds were located in seven Midwestern States—Iowa, Nebraska, Kansas, North and South Dakota, Minnesota, and Missouri [10]. On the brighter side, these simulations indicate that problems associated with the farm economy are likely to affect the banking systems in relatively few counties outside the Midwest.

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[5] The $500 million cutoff to distinguish "large" from "small" bank organizations is completely arbitrary. Based on June 1985 data and a $500 million cutoff, there were 485 large bank firms and 235 large MBHC's operating in the Nation.

[6] Even when MBHC's grant affiliates substantial decisionmaking authority, each affiliate still has an implicit claim on the firm's combined resources.

[7] This figure may understate problems among rural and agricultural banks somewhat because of accounting and reporting practices. Using an alternative measure, 154 rural banks and 107 agricultural banks had problem loans (loans past due 90 days or more and still accruing interest, nonaccruing loans, and renegotiated loans) greater than primary capital at the end of 1984.

[8] A 10 percent write-off on agricultural loans over a one-year period is extremely high based upon historical standards. During the first six months of 1985, only 95 agricultural banks wrote off more than 10 percent (annualized) of their *total* loan portfolio; the vast majority wrote off less than 1 percent (annualized) [6].

The extent to which rural banks, and particularly agricultural banks, will be willing and able to continue offering a stable supply of credit to rural borrowers as the agricultural sector adjusts to market oriented government support programs remains open to question. Under most scenarios, serious problems are likely to affect relatively few commercial banks, but how the lending behavior of surviving banks might be changed depends upon several unanswered questions.

- To what extent can commercial banks continue to exercise forbearance in dealing with delinquent farm borrowers? Does forbearance on farm loans affect a bank's new loan application decisions?
- To what extent will recently enacted and pending Federal and State legislation to assist troubled farmers affect the recovery rate on commercial bank farm loans? For example, will farm foreclosure moratoria, or more lenient bankruptcy laws for farmers, affect bank losses and lending decisions?
- To what extent do developments with the Farm Credit System affect commercial banks in heavily agricultural areas of the country?
- What is the potential for developing a viable secondary market in agricultural loans? Alternatively, can a mechanism be developed to allow small banks to diversify their loan portfolios through small-sized participations in loans originated by regional and money-center banks?
- Can the Federal Deposit Insurance Corporation develop liquidation techniques that encourage healthy banks to take over failed banks in agricultural areas of the country? Alternatively, what effect might proposed net worth certificate programs have on failure rates among agricultural banks?

The answers to each of these questions have implications for both the health of rural banks and their ability and willingness to continue lending to rural borrowers.

The Future of Rural Banks and Deregulation

The farm financial crisis is an immediate threat to the continued effectiveness of some rural banks, particularly in the Midwest. But a potentially more widespread threat to rural banking systems comes from deregulation of the financial services industry. As more States pass legislation allowing statewide and interstate branching, will small community banks serving rural communities be able to survive? Only time will tell for sure, but the continued viability of small rural banks within local banking systems seems likely for several reasons.

First, interstate merger and branching activities to date suggest that independent rural banks are not likely purchase targets. Merger activity appears to be concentrated among bank organizations serving large urban markets with good growth potential.

Second, deregulation of deposit interest rates has considerably dampened the advantage statewide branching networks previously had through access to inexpensive consumer deposits. The cost of consumer deposits has risen, making alternative sources of funds, such as the Federal funds market or the issuance of large certificates of deposit, more attractive to fast growing banks. And third, the available evidence suggests that there may be only limited economies of scale and scope in the production of financial services.[9] Thus, there may be few inherent cost disadvantages to being small, particularly when small banks can purchase many specialized services for their customers from larger banks and other firms, as is often the case.

Ultimately, the survival of independent banks within rural markets hinges on their ability to compete effectively with other banks and financial service providers. Their physical presence in rural communities, and their knowledge of the local economy may provide them the opportunity to fill an essential financial need—providing credit to borrowers who lack access to regional and money-center banks because of their small size, limited "track record," or marginal qualifications. Whether this opportunity is sufficient depends upon several unanswered questions.

- Are large bank organizations as supportive of the credit needs of the local economies they serve as are independent banks? Does their support continue during local economic downturns?
- To what extent will nonlocal banks expand into rural markets given the opportunity? How has the historical timing of previous changes in State-imposed restrictions influenced the degree to which a State's banking system is centralized among relatively few firms? Can historical examples shed any light on future developments?
- Will a close working relationship with their bankers remain an important consideration among small independent businessmen? How price elastic is this aspect of financial services? Do very large banks (those not included in previous empirical studies) enjoy economies of size in the production and distribution of financial services?
- To what extent will "less-than-full-service" banks and other providers infringe upon the markets of small independent banks? Will product deregulation coupled with tighter deposit insurance restrictions alter the comparative advantages among various providers of financial services in rural America?

The immediate future of rural banks does not appear threatened, and some level of financial service will remain available to rural residents with or without small rural-based banks. However, the answers to our questions will help determine the relative cost and quality of financial services for rural residents in the future, as well as the manner in which they are provided.

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[9] While empirical research suggests that large banks do not have a cost advantage in the production of financial services, the bank samples used in these studies do not include the truly large banks [3].

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CREDIT AND RURAL DEVELOPMENT

By Gary P. Green*

The role that local financial institutions play in promoting rural development has received increased scrutiny in recent years. Recent changes have prompted this concern. On the one hand, we see changes in the structure and performance of financial institutions in nonmetropolitan areas and, on the other, we find that the nonmetropolitan areas themselves have undergone a transformation. In the first case, there are signs that the deregulation of the commercial banking industry, structural change in local financial markets, and declining support for agricultural commodity programs may reduce the supply and access to credit in rural areas in the future. Furthermore, the increasing influence of national and international markets for capital on local financial institutions has placed into question the importance of local markets.

This transformation of nonmetropolitan America referred to above occurred during the 1970's. During that time, structural changes in agriculture, the nonmetropolitan "invasion" of industry, and the population "turnaround" increased the demand for credit in nonmetropolitan areas. These developments created concern over the adequacy and efficiency of local financial institutions. However, the 1980's brought recession and a farm crisis. The attractiveness of capital investment in rural America has diminished. The result may be a credit gap that will have negative consequences for rural development.

THE STRUCTURE AND PERFORMANCE OF LOCAL FINANCIAL INSTITUTIONS

The relationship between the structure and performance of financial institutions has been a productive line of inquiry for social scientists. This relationship is of concern because there are several factors that will influence the structure, and possibly the performance, of rural financial institutions in the near future. For example, the deregulation acts of 1980 (The Financial Deregulation and Monetary Control Act of 1980) and 1982, may increase the cost of credit for rural, and particularly farm, borrowers. One consequence of deregulation will be that smaller banks will be at a greater disadvantage in their local market. Secondly, deregulation will probably reduce the alternative sources of credit in many rural areas.

The structure of financial markets in nonmetropolitan areas will also be influenced by changes in banking regulations that will permit interstate banking in certain regions and, in many States, permit branch banking or multibank holding companies. Several studies have examined the relationship between banking structure, that is, branch (or multibank holding company affiliation) versus unit, and the performance of rural banks. There does not appear to be any consensus in the literature on this matter. However, the research indicates that branch banking systems or multibank holding companies do not necessarily drain capital from rural communities, but often have different loan policies than independent banks. Branching often leads to a greater allocation of credit in rural areas (Barkley et al., 1984). Barkley and Potts (1985) found branch banks to be more competitive and to make a larger proportion of their assets available for loans than unit banks. Hayenga (1975) found that rural bank mergers led to an increase in the availability of financial services. On the other hand, merged banks charge farmers higher interest rates and have policies that often favor large farms (Lee and Richert, 1978). Gady (1971) also found that rural bank mergers led to fewer farm loans. Green (1984) examined the effect of multibank holding company affiliation on the lending policies to farmers among rural banks in Missouri. Multibank holding company affiliation had little, or no, effect on the required down payment, interest rate, and acceptance rates for various types of loans. However, independent banks made a larger proportion of their farm loans to small farms, while multibank holding company affiliates made a greater percentage of farm loans to medium-size farms. Reporting from the same study, Green (1986a) found that multibank holding company affiliates had a higher loan-to-deposit ratio than independent banks.

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An important influence on the performance of rural banks is government policy, particularly policy concerned with the farm program. The declining support for agricultural commodity programs and the withdrawal of the Federal Government from lending will raise the cost of, and possibly reduce the access to, credit in rural areas in the future (Green, 1986b). Elimination, or reduction, of agricultural commodity programs will increase the amount of risk in agricultural production. As a result, commercial banks will probably reduce the proportion of farm loans and increase the interest rate charged to farmers. At the same time, it appears that the "Federal Government will play a smaller role in providing credit to farmers as a result of the reorientation of the Farmers Home Administration away from emergency lending and toward supervised lending to family farms (Harrington *et al.*, 1983:21)." Both of these changes may make farm loans more difficult to obtain, particularly for the smaller operator, during the present farm crisis. In a crisis, access will be more important than the cost of credit.

Finally, the entrance of several large nonfinancial corporations into the banking industry may further undermine the relationship between local financial institutions and the rural community. This development will also have important consequences for the relationship between banking and commerce in this country.

It is often assumed that financial institutions, particularly commercial banks, play a significant role in stimulating the local economy of a rural community. Therefore, the performance of the financial institutions should influence the extent of community/regional growth and development. However, there is little empirical evidence to support this thesis. Darnell (1972) found no relationship between measures of bank performance and managerial philosophy and regional economic growth. In fact, Dreese (1974) found that employment growth was a better predictor of loan growth than the reverse. Milkove and Weisblat (1982) investigated the effects of the competitive structure of financial institutions on rural bank performance and economic growth. They found little support for the proposition that the competitive structure and bank performance would explain economic growth. One interesting implication of Milkove and Wesiblat's findings is that that liberalizing branch banking restrictions would have little effect on the economic growth of a region or community.

The conclusion drawn by researchers from this body of literature has been that the competitive structure and performance of local financial institutions have no effect on community/regional economic growth. A major reason for this is that factors external to the local community may have a greater impact than internal factors on employment growth in rural areas. Branch plants are more likely to locate in nonmetropolitan areas (Noyelle and Stanback, 1983). Conversely, small businesses are more likely to locate in metropolitan areas. This is significant because, in most cases, branch plants will obtain their credit outside the local community. Therefore, loan policies of banks located in metropolitan areas, where the home office is located, would have the greatest impact on employment growth in nonmetropolitan areas. However, we should not infer from this that local financial institutions have no impact on economic growth. Local, particularly independent, financial institutions play a most significant role in promoting small business in nonmetropolitan areas. Local financial institutions occupy an important niche in the local community by promoting alternative sources of employment and support for small businesses that are less attractive to financial institutions owned and controlled by others outside the local community (Green, 1985). If nonmetropolitan areas are to diversify their economies and attract new, small businesses, local financial institutions must play a large part in the development effort.

Development in Rural America

The decade of the '70's brought a transformation to rural America. This transformation was characterized by the changing structure of agriculture, movement of industry into nonmetropolitan areas, and the population "turnaround." In the following section, I examine how these three trends influenced the demand for credit in rural areas.

The trend toward fewer and larger farms has been well documented (Schertz *et al.*, 1979). Underlying this trend is the increased capitalization of agriculture—the substitution of capital for labor. Cochrane (1979) indicates that as a percentage of total inputs into agricultural production, capital has increased from 17 to 62 percent, and labor has decreased from 65 to 16 percent, over the past century. One important consequence of this change in the mix of inputs has been that retained farm earnings are no longer able to meet the increased capital requirements of modern agriculture. As a result, the amount of interest payments for nonreal estate loans has increased from $186 million to $11,349 million since 1940. Interest payments by farmers for real estate loans has increased from $243 million to $9,633 million during the same period (USDA, 1982). Not only have farm interest payments (both nominal and real estate) increased in an absolute sense, but also as a proportion of total farm expenditures. The ratio of farm interest payments to total farm expenditures has increased from 4 to 14 percent. The increased debt and persistently high interest rates have been major contributors to the credit crisis in agriculture. Although many farmers today are carrying dangerously high debt loads, it is the young farm operators who entered farming during the 1970's who are particularly vulnerable (Bultena *et al.*, 1985; Campbell *et al.*, 1984).

It is difficult to identify the direction of casuality in this relationship between the availability of credit and structural change in agriculture. Lins (1979) contends that while some structural change would have occurred in the absence of credit, the number of farms lost in the 1970's would not have been as large had credit been readily available. On the other hand, it was the increased scale of agricultural production that enlarged the demand for credit in many rural communities. No matter which is the causative factor, the capital-intensive nature of agricultural production has made access to and cost of credit important discriminators of who enters into farming and who survives.

Another development in the U.S. economy that has produced significant change in nonmetropolitan areas over the past two decades has been the increased mobility of capital. Capital was attracted to rural areas because of the lower cost of labor, improvements in transportation and communication, tax benefits, and technological advances. Although much of this industrialization was financed by capital outside the local community, it did promote other investments to support the industrial base. However, it is ironic that the capital mobility, which enabled rural areas to gain industry during the 1970's, would appear to be the cause of the flight of capital from many rural areas to Third World countries today. For example, the textile, apparel, and shoe industries, which formed the industrial base for much of the rural South, have experienced significant declines in recent years. The result has been a loss of manufacturing plants without the substitution of service industry, as in other regions (notably New England). These trends would suggest that nonmetropolitan America will be less attractive for investment as capital becomes increasingly mobile and the economy is based more on the service sector.

In the 1970's, rural America experienced a dramatic reversal in the population trends that had developed since the turn of the century. Nonmetropolitan areas during this decade had a larger population increase—largely due to migration—than urban areas. Several factors contributed to the population increase: the development of tourist industries, improvements in transportation, rural industrialization, and retirement settlements in many regions. The urban-to-rural migration pattern contributed to much of the economic growth and development in rural areas. Many of the migrants to rural areas were retirees who increased the demand for home loans, and indirectly stimulated the demand for business loans as a result of their demand for services. Recent studies have found that the population trends have once again reversed themselves; urban areas are growing at a faster rate than rural areas. The reduced growth rate will probably lead to a decline in the demand for credit in many rural communities.

The evidence suggests that the capitalization of agriculture, the nonmetropolitan invasion of industry, and the population turnaround increased the demand for credit in many rural areas during the 1970's. Judging from the studies of the performance of rural banks during this period, it would appear that financial institutions were able to meet this demand, possibly at the expense of urban areas, and contributed to the development of many rural communities. However, this growth in demand for credit directly, and indirectly, contributed to changes in the structure of local financial markets. Attracted to the potential investments in nonmetropolitan areas, many large banks acquired smaller, rural banks during this period. As reported earlier, the evidence suggests that the changing structure of financial markets did not have a strong adverse effect on development in rural communities at this time. It remains to be seen whether these banks will continue to invest capital in rural communities, as they did under the favorable conditions of the 1970's, or whether they will drain capital from these communities, as was once feared.

CONCLUSIONS

The present credit crisis in rural America will have long-term consequences for the structure of local financial institutions and community/regional economic development. Not since the Great Depression have so many banks failed as they did in 1985. More than half of these failures were farm banks (*Business Week,* 1985). Most of these banks did not have a diversified loan portfolio; they relied heavily upon farm, and in certain regions of the U.S., energy loans. This crisis not only creates problems for rural banks, but the entire banking system. For the major U.S. banks experiencing financial difficulty in 1984, such as Continental Illinois, Crocker National, and First Chicago, it was agricultural, real estate, and energy loans which were the most problematic loans. For example, Continental Illinois had correspondent relations with 43 percent of the banks in Iowa (*Business Week,* 1985).

The credit crisis should exacerbate the trend toward fewer and larger farms. First, commercial banks will most likely adopt much stricter loan policies in response to the credit crisis. Greater emphasis will be placed upon cash-flow statements, which should make it more difficult for small farm operators to obtain loans (Green, 1984; 1985). Secondly, the continuing credit crisis in agriculture will increase the risk in agricultural loans, and therefore, may raise the cost of credit for farmers. Large farm operators, who are more likely than small farms to have access to credit outside the local community, will have a structural advantage during this period.

Employment growth in nonmetropolitan areas will also be influenced by the credit crisis. Because many rural banks have a large proportion of their loan portfolio in farm loans, it will be difficult to meet other credit needs in the community. This is particularly important for many rural communities that require capital to build an infrastructure to sustain further growth.

This analysis has identified several factors that will influence the structure and performance of rural financial institutions. Other developments in rural America, such as the continuing farm crisis and a reversal in the migration pattern will make nonmetropolitan areas less attractive for capital investment. The result of these two processes will be a growing credit gap in rural America, which will have dramatic consequences for economic development and growth in the future.

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RURAL FINANCIAL INSTITUTIONS: TRENDS AND PROSPECTS

By Lynn A. Nejezchleb*

After decades of relative calm, financial institutions have recently been facing a changing and sometimes difficult environment. Interest rate deregulation, a more volatile interest rate environment, and deflationary conditions in some sectors of the economy are some of the more important changes which have taken place. These changes have been perhaps even more dramatic for rural financial institutions.[1] Evidence of this is given by the fact that an increasing proportion of a rising number of bank failures have been banks located in rural areas. In 1983, only 34 percent of commercial bank failures were located outside of metropolitan areas. That percentage rose to 53 percent in 1984 and to 68 percent during 1985.

Are these statistics indicative of a long-term decline in the future viability of rural financial institutions, or of a short-term problem associated with economic difficulties in certain sectors of the rural economy? A larger question is the extent to which deregulation of the financial services industry will change the nature of rural financial institutions and markets. Reviewing recent developments and trends in order to give some interpretation to their significance and causes should help to shed some light on these matters.

Aside from public entities at the Federal and State levels which provide funds for public infrastructure and targeted private development, commercial banks, savings and loan associations (S&Ls), and Farm Credit System associations are the major rural-based financial institutions. Assets of rural-based commercial banks totalled $335 billion at mid-year 1985. This compares to $100 billion in total assets at rural S&Ls and about $80 billion held by the Farm Credit System. With few exceptions, these rural institutions are small. There are nearly 7,900 rural commercial banks with average assets of about $42 million, and about 1,000 rural S&Ls and 800 Farm Credit System associations with average assets of about $100 million. In contrast, metropolitan commercial banks had an average asset size of about $340 million. Thus, when discussing the future of rural financial institutions, we are almost invariably discussing the future of small institutions as well.

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* The author is a financial economist at the Federal Deposit Insurance Corporation. The views expressed are his own and do not necessarily reflect the views of the FDIC.

[1] Rural financial institutions will be defined here as those that are located (as stated in their charter) outside of officially defined Metropolitan Statistical Areas (MSAs).

RECENT TRENDS

Declining Performance at Rural Financial Institutions

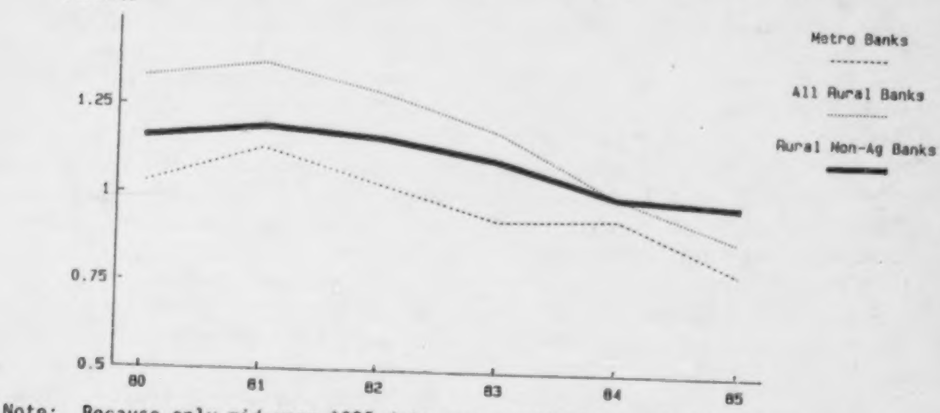
Rural commercial banks tended to outperform small urban banks (banks with under $500 million in assets) during most of the 1970's. The fact that the proportion of bank failures located in rural areas rose from 34 percent in 1983 to 68 percent in 1985 (rural commercial banks comprise about 54 percent of total commercial banks) is the most telling evidence that this situation is changing. Other financial data also indicate that the advantage once enjoyed by rural banks is rapidly diminishing. Return on assets at rural commercial banks fell from an annual rate of 1.37 percent during the first half of 1981 to 0.88 percent during the first half of 1985. Over the same period, the rate of return at small metropolitan banks fell from 1.13 percent to 0.79 percent. Thus, the relative decline in the profitability at rural banks has been greater than that at small metropolitan banks. At the same time, the profitability of larger metropolitan-based banks has held nearly steady.

An obvious question concerns the extent to which interest rate deregulation is responsible for this turn of events. Because rural banks have enjoyed a lower and more stable cost of funds in the past, the lifting of interest rate ceilings on deposits together with a more volatile interest rate environment would appear to make it more difficult for these banks to maintain their interest margins (the difference between their cost of funds and interest income).

Most evidence indicates, however, that the difficulties experienced by rural banks have been primarily the result of loan problems related to certain sectors of the economy rather than interest rate deregulation. One indication of this is the fact that net loan losses as a percent of loans at rural banks have steadily risen from an annual rate of 0.23 percent during the first half of 1981 to 0.97 percent in the first half of 1985. Loan losses at smaller metropolitan banks rose by a smaller amount over the same period, from 0.28 percent to 0.62 percent of loans. Net interest margins (interest income minus interest expense as a percent of earning assets), on the other hand, have remained fairly stable for both groups of banks during the 1980's, indicating that rural banks apparently have been able to reprice their loans consistent with changes in their cost of funds.

It seems likely that problems in the agricultural sector are responsible for a substantial portion of rural bank difficulties. About 45 percent of the roughly 7,900 rural banks have at least 25 percent or more of their loan portfolio in farm loans and, as shown in Chart 1, the decline in the performance of rural banks which are less dependent on agriculture (rural, nonagricultural banks in Chart 2) has been considerably more modest (i.e., their return on assets only declined from 1.16 percent in the first half of 1980 to 0.98 percent during the first half of 1985). Furthermore, a large percentage (about 65 percent) of all small banks are located in the central portion of the U.S., an area where both the direct and indirect impacts of problems in the agricultural and energy sectors have been heaviest. On the whole, small metropolitan and rural banks in the central region have gone from a position of being the most profitable in 1980, to the least profitable in 1985. Small banks in the eastern part of the country, on the other hand, have been able maintain profitability at about the same levels as those realized in 1980. All of this suggests that sectoral problems, rather than interest rate deregulation, are at the heart of recent rural-bank problems (and perhaps small metropolitan banks as well).

CHART 1.—*Return on assets at commercial banks with assets under $500 million*



Note: Because only mid-year 1985 data were available as of this writing, all previous-year ROAs are based on first half earnings only. All data, however, are expressed on an annualized basis.

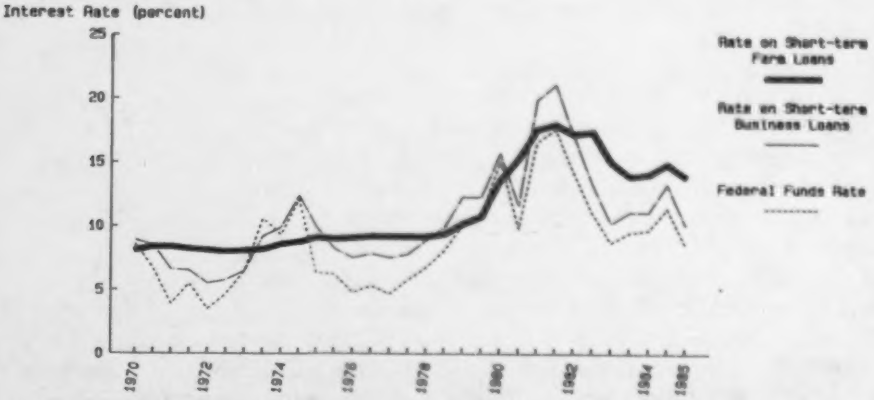
Increasing Integration of Rural and National Financial Markets

In 1973 investment firms began offering money-market mutual funds which offered market interest rates to small investors. These became an attractive alternative to commercial bank and S&L deposit accounts which were limited to a ceiling rate of 5.25 percent. As interest rates rose above ceiling rates during the 1970's and early 1980's, large amounts of money left depository institutions for money-market mutual funds. In 1977, $3.9 billion was held in money-market mutual funds; by 1981 that figure had risen to $181.9 billion. In the initial stages, rural depository institutions were less susceptible to these deposit outflows because of a greater reluctance on the part of rural depositors to seek outside investments. As time went on, however, rural institutions also began to feel the effects of their inability to bid for funds in a high interest rate environment.

As a result of these developments, Congress passed the Depository Institutions Deregulation and Monetary Control Act of 1980 which gradually eliminated most interest rate ceilings at depository institutions, and thus, allowed them to more effectively compete for funds. At the same time, it has also meant that local interest rates on deposits and loans now more closely mirror interest rate movements in the more sensitive national money-markets. Because rural institutions traditionally have had a smaller portion of their liabilities—deposits and other purchased funds—priced at these more sensitive market rates than have urban institutions, the adjustment has been more pronounced for rural depository institutions and their borrowers over the last few years.

This changing relationship is illustrated in Chart 2 which compares the Federal funds rate (a sensitive money-market interest rate which is national in scope), the short-term interest rate on business loans (a barometer of short-term rates in urban areas since the bulk of these loans are made in urban areas), and the short-term farm loan rate (a proxy for short-term rural rates). Throughout most of the 1970's, short-term interest rates on farm loans did not move closely with national money-market rates or rates on short-term business loans. Not until the late 1970's, when *de facto* deregulation of interest rates had already begun and a substantial rise in interest rates was underway, did short-term farm loan rates begin to move with national short-term rates. While the interest rates depicted in Chart 2 probably represent an extreme example of the differences between urban and rural loan markets over time, they are illustrative of the greater extent to which rural financial markets have been integrated with national markets during recent years. This has likely resulted in substantial adjustments on the part of rural financial institutions and their borrowers who must now adjust to more sudden interest rate movements.

CHART 2.—*Interest rates on Federal funds, short-term business loans, and short-term farm loans*



Note: The interest rate on short-term farm loans was taken from a survey series conducted by the Fed. Res. Bank of Minneapolis on District banks. Interest rates on short-term business loans and short-term farm loans are not necessarily based on comparable loans.

Reduced Barriers to Geographic Expansion

The geographic expansion of banks in more rural, agriculturally-oriented states has historically been more limited than in the more urbanized areas of the country. In order to restrict this geographic expansion, states have passed laws which limit the establishment of branch banks and bank subsidiaries of holding companies. Federal laws which govern the geographic expansion of national banks and affiliates of bank holding companies have been subservient to state law since 1927, thus giving states the prerogative in establishing expansion rules.

The lack of expansionary authority granted to banks in many of the more rural states is partially the result of historical accident and a longstanding fear that large urban-headquartered branching systems would drain funds from rural areas (through their rural branches) to lend in more lucrative urban markets, and would generally be less sensitive to rural needs. Most evidence from studies which have looked at this issue does not indicate that this has been a consistent pattern in states that have adopted branch banking, although the lack of data on branches has greatly handicapped such studies.[2] The orthodox concept of static economic efficiency, however, suggests that funds should flow from savings surplus areas to savings deficit areas, where these funds can be put to more remunerative work. According to this criterion, branching systems may enhance overall economic efficiency by facilitating the flow of funds from areas and industries with low economic returns to those with high returns. From a developmental perspective, however, this may further facilitate the decline of economically depressed areas and restrict the availability funds for developmental needs.

Regardless of these arguments, the barriers to geographic expansion have been substantially lowered or circumvented in recent years. From 1961 to 1978, the total number of states permitting statewide branching increased by only three states (from 19 to 22 states), and the number allowing limited branching increased by only one state (from 15 to 16 states). Since 1978, however, four states have moved from unit banking to limited branching status, and six additional states adopted legislation which either already authorizes or will authorize statewide branching. In the wake of increased numbers of bank failures, several states also have enacted legislation which allows statewide mergers and acquisitions in the case of failing institutions.

Interstate barriers to geographic expansion also have been significantly diminished over the past several years. Prior to 1980, only a handful of states allowed out-of-state banks or bank holding companies to acquire banks within their boundaries. Since that time 16 states have passed legislation allowing some form of out-of-state entry. Much of the recent legislation has been in the form of regional compacts, whereby state legislation allows only banks or bank holding companies from states within a given region to enter its own boundaries, provided those states adopt similar legislation. Federal laws which limit interstate expansion of nationally-chartered banks and bank holding companies—except where states already allow it—also have been recently eased to allow cross-state mergers and acquisitions where it will facilitate the takeover of larger institutions (those with assets over $500 million) that are failing. In the case of nonbank banks, these same Federal laws have been circumvented by disposing of a bank's lending or deposit gathering functions so that they technically no longer qualify as a bank under the Bank Holding Company Act of 1956.

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[2] Alan S. McCall and Rex J. Morthland, "The Impact of Banking Structure on Service to Local Communities and Other Considerations", in *Geographic Restrictions on Commercial Banking in the United States: The Report of the President*, (Department of the Treasury, January 1981).

At this point, it is not apparent that the movement towards easing geographic restrictions on intra- or interstate expansion has had any major adverse repercussions for rural areas. In several instances the relaxation of intrastate restrictions has partially resulted from the desire to facilitate the acquisition of failing institutions by healthy institutions and, in so doing, continue to provide banking services to areas that would otherwise have none. This has been particularly true for some of the more rural states which have had more restrictive expansion laws. From January 1983 through the first 10 months of 1985, 98 of the 115 failed commercial banks in rural areas were taken over by other healthy institutions. In addition, 82 percent of these takeovers were by other rural banks.[3]

In terms of numbers of banks, evidence indicates that the consolidation of banks in rural areas during the 1980's has been greater than it was in the 1970's. Table 1 shows the number of commercial banks beginning and ending operations in metropolitan and rural areas during the 1970's and 1980's. For both groups the annual number of banks beginning and ending operations has been substantially higher thus far in the 1980's than in than during the previous decade. The number of banks ending operations in rural areas during the 1980's, however, has exceeded the number beginning operations, resulting in a small net loss of banks located in rural areas. In most instances this does not mean that the rural community is now served by one less bank, but rather that the old bank is now serving as a new affiliate or branch bank. Metropolitan areas, on the other hand, are continuing to post net gains in the number of banks at a pace only modestly below that experienced in the 1970's.

TABLE 1.—THE ANNUAL NUMBER OF BANKS BEGINNING AND ENDING OPERATIONS IN METROPOLITAN AND RURAL AREAS

	1970's			1980's		
	Banks beginning operations	Banks ending operations	Net gain or loss	Banks beginning operations	Banks ending operations	Net gain or loss
Metropolitan	167	91	+76	239	187	+52
Rural	61	48	+13	72	119	−47
Total	228	139	+89	311	306	+5

Increasing Cross-Industry Competition

Rural financial institutions, like urban institutions, have experienced increasing competition among various types of financial institutions (both depository and nondepository types). As a result of the Garn-St. Germain Act of 1982, S&Ls are now permitted to make some loans in the commercial lending area, previously the sole province of commercial banks. In a national trade-group survey of small businesses, 29 percent of the businesses reported a loan solicitation from a thrift or other nonbank institution.[4] On the deposit side, thrifts have been competing with commercial banks for transaction accounts and other deposit funds for a number of years.

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[3] Gregory R. Gajewski, "Bank Failures in Rural Communities", Unpublished Staff Study, (United States Department of Agriculture, ERS, 1985).

Perhaps the biggest change, particularly for rural areas, has been the greater availability of financial services—mainly investment services—provided by nondepository institutions. Through numerous retail outlets, firms such as Merrill Lynch and Sears are offering various types of investment services (such as money market funds and stock funds) which in many cases are close substitutes for transaction or other deposit accounts. Small depository institutions in rural areas increasingly have had to compete with such firms in order to maintain their deposit base. At this point, it appears that rural banks have been able to attract adequate funds to meet rural credit demands.

PROSPECTS

While the profitability of both small-rural and small-metropolitan banks has declined over the past several years, the decline has been much larger for rural banks. The profitability advantage once enjoyed by small-rural banks over their urban counterparts has nearly disappeared. Loan losses appear to be the major factor in declining profitability at both groups of banks. These loan losses, however, have been higher at rural banks. Problems in the agricultural sector, no doubt, account for a substantial share of rural banks' recent problems. Over the near-term, it is likely that problems in the agricultural and energy sectors will continue to pose problems for rural banks, resulting in lower profits and continued high failure rates over the next couple of years.

There is little evidence that the combination of interest rate deregulation and a more volatile interest rate environment has had major direct impacts on the profitability of rural banks. It seems likely that as conditions in the agricultural sector—and perhaps the energy sector—eventually improve, rural-bank profitability will take an upturn. Over the longer-term, studies on the technical efficiencies of various sized banks have generally indicated that small, well-run banks have been able to profitably compete with larger institutions.[5] These studies, however, are based on a given technology, a given pattern of economic growth, and a given set of regulations governing various types of financial institutions. As these factors change, the prospects for rural financial institutions as well as the nature of rural financial markets may also change.

Various regulatory changes affecting financial institutions have changed the nature of rural financial markets. A higher and more volatile interest rate environment together with interest rate deregulation have resulted in rural financial markets becoming more highly integrated with national financial markets. The interest rates which rural depository institutions pay and charge their customers more nearly reflect what is happening in major urban financial centers. While there have been clear benefits to rural savers, smaller rural businesses have probably gone through a period of greater adjustment than their urban counterparts in dealing with the recent round of interest rate movements. It seems clear that the integration of rural and national financial markets will continue and heighten over the coming years.

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[4] National Federation of Independent Business Research and Education Foundation, *Credit, Banks and Small Business: 1980–1984*, March 1985.

[5] Alan S. McCall, "Economies of Scale, Operating Efficiencies, and the Organizational Structure of Banks", in *Geographic Restrictions on Commercial Banking in the United States: The Report of the President*, (Department of the Treasury, January 1981).

Despite the apparent ability of smaller institutions to technically compete with larger institutions, the easing of geographic restrictions will almost certainly result in further consolidation of financial institutions. A much publicized study by Arthur Andersen and the Bank Administration Institute in 1983, projected that the number of commercial banks would decline by almost one-third to 9,600 banks by 1990.[6] It now appears, however, that this projected decline is on the high side. Recent evidence indicates that during the 1980's urban areas have been gaining banks, and declines in rural areas have been modest. The rate of decline in the number of rural commercial banks, however, will probably increase over the next 5 to 10 years, as problems in the agricultural and energy sectors continue and as new opportunities for consolidating institutions are pursued.

A large proportion of these consolidations will likely represent the streamlining of existing multibank holding company and chain banking (ownership of more than one bank by an individual or group of individuals) operations into branching networks. As a result, many of the existing ownership ties among financial institutions will simply become more explicit. The potential for this type of consolidation is the greatest in the Midwest and Great Plains states, where branching generally has been prohibited and multibank holding companies and chain banks are numerous. Some new organizational linkages among banks, however, will also be established as a result of new intra- and interstate merger opportunities. Most of these new organizational linkages probably will be between banks which are somewhat similar in size and type of market. It does not seem likely that large money-center banks or regional banks will make substantial inroads into rural areas via the traditional "brick and mortar" route in the near future.

The further easing of geographic restrictions on commercial banks and further increases in cross-industry competition may result in erosion of rural banks' customer base. In the provision of credit to rural customers, however, rural institutions probably have some distinct advantages over potential competitors from urban areas. When asked to prioritize various factors which they consider important in a banking relationship, small businesses have consistently ranked both "the bankers personal knowledge of them and their business" and "the reliability of a credit source" above "the cost of credit."[7] Thus, rural institutions which cultivate their business relationships and offer credit at a reasonable cost, will represent difficult loan markets for new bank entrants.

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[6] Arthur Andersen & Co. and the Bank Administration Institute, *New Dimensions in Banking: Managing the Strategic Position*, 1983.

[7] National Federation of Independent Business Research and Education Foundation, *Credit, Banks and Small Business: 1980–1984*, March 1985.

Perhaps a more difficult challenge for rural institutions will be to maintain their deposit base. Just as money-market mutual funds became available to rural and urban residents alike, it seems likely that larger financial institutions (depository as well as others) will increasingly attempt to market financial service packages in order to attract funds on both a regional and national scale. These financial service packages might include a wide range of services from checking accounts, to brokerage services, to financial counseling, and be made widely available to rural residents through electronic mediums or existing nonbank firms as geographic and product market restrictions are eased. Developments such as these will require rural institutions to become more aggressive in attracting rural deposits. For those institutions that cannot produce similar financial service packages in a cost-effective manner, providing such services through other vendors or franchising networks may be viable options. Over the longer term, maintaining their deposit base in the face of increasingly sophisticated packaging and marketing techniques by larger financial institutions (both depository and nondepository) may be a greater challenge for rural banks than either interest rate deregulation or the easing of geographic restrictions on banks.

PRIVATE AND PUBLIC SECTOR SOLUTIONS TO FINANCIAL STRESS PROBLEMS

By John R. Brake and Michael D. Boehlje*

The current financial stress problem stated succintly is that farmers and farm lenders are experiencing financial losses, and indeed, business failures, in near "crisis" proportions. Various data describe the problems including debt-asset ratios of farmers, delinquencies of farm debt, net charge-offs of debt by lenders, loss of capital and failures of farm lenders (Economic Research Service; Melichar 1985; Bullock; and Barkema and Doye). Unfortunately, no quick turnaround is in sight unless public policy or acts of nature change the situation. The private sector will bear the brunt of the continuing adjustment, at least until the cost becomes so great that the public is asked to share the burden.

While not delineated here, the root causes of financial stress are many (Bullock; Brake; Economic Research Service; Melichar, 1984). The common element in farm financial problems, however, is unserviceable debt; and in lender problems, increased default risk and excessive concentration of the portfolio in agriculture and agriculturally related businesses.

The "new environment" facing agriculture requires significant adjustments for the sector, individual firms, and public policy. These adjustments include sector adjustments, firm level adjustments, and short-term public policies.

SECTOR ADJUSTMENTS

Five major long run adjustments appear necessary to obtain a more financially stable agricultural sector. These include:

1. Lower interest rates

Lower interest rates would benefit agriculture in four ways: lower direct costs of borrowing money, a lower valued dollar and increased demand and prices in the export markets, lower inventory carrying charges for holders and purchasers of agricultural commodities and thus marginally higher prices, and lower interest costs for supply firms and thus marginally reduced prices of purchased inputs. Interest rates, real and nominal, are very high by historical standards. Most analysts agree that reduction in the government deficit would result in lower real and nominal interest rates and a somewhat lower valued dollar. The importance of lower interest rates for agriculture is difficult to overstate; a 1 percent decline in interest rates on the $200 plus billion of U.S. agricultural debt would result in an approximate $2 billion increase in net farm income. Tweeten estimates that lower interest rates resulting from a balanced budget would reduce the value of the dollar in foreign markets by 20 percent, leading to a 10 percent increase in exports within two years and as much as a 20 percent improvement in the longer run.

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2. *Mothball excess capacity*

The U.S. agricultural sector currently has approximately 5 to 10 percent excess production capacity (Tweeten). This contributes significantly to the current low rate of return on farm assets. Yet, the productive capability of some of the agricultural asset base is deteriorating because of excessive soil erosion. Conversion of 20 to 30 million acres of steep, erosive and low yielding grain land to grass or nonuse is one way to eliminate excess production and reduce soil erosion.

3. *Lower resource values*

In a period of excess capacity, a normal economic response is lower resource earnings and lower asset values. Land values in parts of the U.S. are 35 to 40 percent below the peak of the early 1980's. Given current prospects for prices, interest rates, and expected input costs, farm asset values may fall further. The financial stress of farmers further compounds the problem because a major strategy for alleviating financial stress is asset liquidation. Such liquidations increase the supply of land on the market and further contribute to land price declines.

4. *Reduce debt*

The total debt load of agriculture is not evenly distributed. About one-third of the farmers owe approximately two-thirds of the debt. For many of these farmers earning capacity of assets is not sufficient to cover debt service costs with current interest rates and profit margins. This "excessive" debt must either be redistributed or eliminated. Redistribution may occur through debt-financed purchases of assets from those having cash flow problems by financially sound farmers or other investors. A reduction of the industry debt load will occur by repayment of debt with earnings from either on or off farm sources, by substitution of equity from outside the agricultural sector for farm debt, or by discharge of debt by agricultural lenders. Probably a significant amount of agricultural debt will be discharged or written off over the next three to five years by the public and private lending institutions that service agriculture. This discharge of indebtedness will represent significant costs to lenders in the short run, but it will reduce the sector debt load and improve agriculture's financial condition in the long run.

5. *Restructure asset ownership*

Some farmers with very high debt loads cannot "afford" to own all of their assets, and these assets must find new owners. This asset restructuring in many cases will accompany the redistribution and restructuring of debt. Lenders will inventory some assets in lieu of the note or mortgage, but these assets will eventually be placed on the market. Accompanying this restructuring of the ownership pattern of assets will be a set of important issues concerning the tenure arrangements in agriculture including the institutional structure and property rights of tenants versus landlords, the advantages and disadvantages of the separation of ownership and operation of real estate, and the volatile issue of outside equity in agriculture.

FIRM LEVEL ADJUSTMENTS

Although the theoretical basis for the sequence of adjustments that financially stressed firms undertake is not well developed, the process does appear to be relatively well structured irrespective of type of industry. Farm firms are facing severe financial stress similar to that encountered by firms in other industries. Learning from their experience and understanding this "generic" sequence of adjustments to financial stress problems suggests the choices that farm and agribusiness firms face:

1. Increase net income

The first focus of any firm in financial stress is to increase income through expanding sales, increasing productivity, or reducing costs. Much of the focus in agriculture in recent years has been on cost containment as a response to financial stress. While opportunities to increase income from the farm have been limited, some farmers have utilized nonfarm income (from labor or capital) to augment farm earnings as well as to diversify income sources and reduce financial risk.

2. Restructure liabilities

Many farmers are unable to increase income and cash flow sufficiently to alleviate financial stress, so the second adjustment is to restructure liabilities to reduce debt service requirements. Liability restructuring takes many forms including deferment of principal and interest payments, reamortization of principal over longer repayment periods, and even discharging or writing off part of the debt obligation by the lender.

3. Restructure assets

For many farm businesses, restructuring liabilities will be inadequate to alleviate financial stress. Many farm operators own fixed assets that they can no longer afford, given current high interest rates and low rates of return. Without reasonable expectations that cash flow margins will improve sufficiently to cover ownership costs, the property must be transferred to a new owner. Restructuring assets, if done properly, can reduce the proportion of low yielding, low liquidity assets of the firm. Proceeds can be applied to debt obligations or reinvestment in higher yielding, higher liquidity assets. Restructuring assets may involve a sale-leaseback arrangement where the ownership rights are transferred but the use rights are retained. Sale-leaseback relieves the financial burdens of ownership but retains the use of the property so that the productivity of the firm is not impaired. Sale-leaseback also helps to restructure asset ownership without depressing values through excessive liquidations.

4. Equity infusion

An equity infusion typically follows rather than precedes the asset restructuring option because, in most cases, this step will result in some loss of control by the entrepreneur (Boehlje). In one sense, the sale-leaseback of assets is a form of equity infusion; the operator rents the equity of the landlord rather than investing directly in the firm. An equity infusion might come from a family member or an unrelated investor. In some cases, the equity investment occurs through a conversion of debt to equity by borrower-lender agreement. In agriculture this conversion frequently involves contract indebtedness; many installment land contracts are currently being renegotiated with the seller (equity holder) taking back title to the property or restructuring the contract into a risk and return sharing arrangement with the purchaser. The result exhibits many of the characteristics of an equity position.

5. Merger/acquisition

The final alternative is to merge and/or be acquired by another firm. This choice is commonly used in the nonagricultural sector where the firm has "goodwill" value because of market position, reputation, etc. The merger/acquisition is less likely to be used in agriculture with the typical farm firm; instead, the assets are severed from the firm and liquidated. For larger farm businesses as well as agribusiness firms, the merger/acquisition step is more common; e.g., acquisition of financially stressed and bankrupt Southern Plains cattle feedlots during the 1970's by investor groups, and the Case-International Harvester merger.

SHORT TERM PUBLIC POLICIES TO AID TRANSITION

A number of transition policies involving credit or lender adjustments are being discussed to deal with current financial stress of farmers (Brake, Boehlje, and Lee; Doye and Jolly). Five of the more frequently discussed policies are debt restructuring, principal forgiveness (write-off), interest buy-down, foreclosure moratoria, and inventorying assets or facilitating changes in asset ownership patterns.

1. Debt restructuring

This refers to rescheduling of loan commitments by refinancing or rewriting short-term or intermediate-term debt to a long term basis if justified by real estate collateral. Alternatively, each class of loans—short, intermediate and long term—may be rescheduled over a longer repayment period. The premise of restructuring is that additional time to repay the principal reduces annual obligations.

Debt restructuring can be done voluntarily and it can be useful for some percentage of farmers in trouble, i.e., those who need marginal help rather than massive help. For borrowers whose short or intermediate term debt is a high proportion of total debt, substantial improvement in cash flow may result from restructuring. However, the long-term benefits of restructuring should not be overestimated (Boehlje, Thamodaran, and Barkema).

While restructuring is typically done on a voluntary basis by the lender, it may be encouraged by a government guarantee of the loan. FmHA has used this approach of providing a guarantee for 90 percent of the principal if the lender will write down the debt by at least 10 percent (principal or interest rate equivalent) and then restructure the loan so that a cash flow budget shows obligations can be met.

Restructuring farmer debt involves few costs to borrower or lender if the situation is analyzed carefully beforehand. There are no public costs unless loan guarantees are involved. Probably much of the potential voluntary debt restructuring has already occurred, however.

2. Principal forgiveness or write-down

A write-down might recognize that the value of the asset has fallen below the loan amount. Or, a write-down may be negotiated to ease impossible debt service requirements. Whether the write-down will resolve the problem depends on the debt service obligation in relation to income.

A write-down initiated by examiners can create a problem for lenders because it represents a direct loss of equity on the books. The lender might not agree with the examiner's analysis; yet, the examiner forces the lender to reduce asset values, in turn eroding lender equity.

A principal buy-down is typically initiated through a public credit policy. An FmHA guarantee, for example, might apply if the lender writes down part of the outstanding principal and restructures payments to ease the debt service burden of the borrower.

While principal forgiveness or buy-down helps farmers in financial stress, it may lead to ill-will on the part of other farmers. They see financially troubled farmers gaining "unfair" advantages. Principal forgiveness represents a cost to the lender, and a principal buy-down is a cost to taxpayers. Both, however, do ease the debt burden of the financially stressed borrower.

3. Interest buy-down

This policy involves interest rate reduction on an existing loan. The buy-down refers to the government paying a part of the cost of an interest rate reduction if the private lender will reduce the interest rate. On a 14 percent loan, for example, a 4 percent buy-down would lower the interest rate to 10 percent. Some part of the cost would be borne by the government and the remainder by the private lender. An interest buy-down speaks directly to the basic problem facing financially stressed farmers—too much debt service.

Interest rate buy-downs can be implemented in many ways including a direct government payment, an increased tax write-off for farm interest payments, a public guarantee to reduce the risk faced by lenders (allowing lenders to charge a lower rate), and the use of tax-exempt revenue bonds to obtain lower cost funds for agriculture.

The effectiveness of an interest buy-down is directly related to the amount. While it is relatively effective in reducing the debt service burden, it is also expensive. A 4 percentage point reduction in interest rates on all debt owed by farmers with debt/asset ratios over 40 percent would require about 4 billion dollars (Doye and Jolly).

The effect on lenders of an interest buy-down depends on the fraction of cost paid by the government and expected loss through default if the borrower is not given some relief. Probably lenders would utilize an interest buy-down for borrowers who could not make it otherwise, but they would resist for those who might survive by other means.

4. *Foreclosure moratoria*

Moratoria have received substantial discussion. The purpose of a foreclosure moratorium is to stop proceedings to enable the financially stressed producer to gain temporary relief from excessive financial obligations. A key to the success of this approach is a relatively quick turnaround in the condition of the industry.

Moratoria as applied under the Frazier-Lemke Act in the 1930's affected only real estate loans (Munger and Fede[illegible]). The farm was appraised, and the court granted a moratorium for three years. The farmer kept the property in his possession, continued to farm, and paid rent for its use. Within three years the farmer could pay the appraised value and redeem his property; if not redeemed, it was sold. The farmer was not liable for loan amounts greater than the lesser of the appraised value of the property or its sale price.

The moratorium approach limited farmer losses although it required some payment for use of the property. The main advantage, however, was that the courts could force creditors and borrowers to work out their differences. The experience of the 1930's was that relatively few farmers took advantage of this approach. Creditors quickly made adjustments in lending practices reducing new loans in states which had moratoria. If applied today, one might expect that moratoria would raise interest rates to compensate for increased risk and costs in agricultural lending, decrease credit availability, but stabilize asset values since fewer assets would be forced onto the market.

More recently, attempts have been made to develop targeted or limited moratoria which limit the lender's right to foreclose. For example, a limited moratorium allows the lender to foreclose but only after he has made a "good faith" attempt to use all public sector credit assistance programs available. Or, the lender might be restricted from foreclosing for nonpayment of principal, i.e., the lender could foreclose only if the borrower falls behind on interest payments. In essence, conditional moratoria are a means to encourage the reluctant lender to cooperate with and assist those borrowers facing financial stress.

5. *Inventorying or facilitating changes in ownership patterns of assets*

A number of means could aid in this approach. For example, lending institutions might be encouraged to take title to property in lieu of debt obligations and lease the property back to the original debtor. Then other resources such as machinery and equipment would not require liquidation.

The lender would be converting a nonperforming asset into one generating at least some return. To avoid the problem of lender il-liquidity from holding such assets, the government would likely need to provide funds (perhaps the Federal Reserve window) in the amount of the transferred assets. Such government funds could be provided at lower cost than funds from the private sector, partly offsetting the lower return earned on rental. The lender might be required to remove the assets from its portfolio over a two to four year period. The original debtor would have first option to buy.

Government programs could also be initiated to hold repossessed land off the market. For example, FmHA is, in some places, already holding foreclosed land off the market for one to three years.

Private lenders could be assisted in other ways in holding land off the market. Bank regulations typically require that real estate assets taken over by the bank be valued at market first, and then be written down annually to discourage holding of such assets. The bank loses equity and is encouraged to dump assets. Some States even prohibit ownership of farm land by lenders or corporations thus forcing repossessed farmland onto the market.

An alternative approach would be for a State or the Federal Government to charter an entity to acquire nonperforming real estate debt and the assets securing that debt from lenders. They would hold it off the market, perhaps lease it back to the original farmer, or put it into a conservation reserve program. Funding could come from sale of state or federally issued tax exempt bonds.

Programs to stabilize asset values have advantages and disadvantages. They are beneficial for farmers in financial trouble primarily by maintaining collateral values on their individual balance sheets. Such policies also permit lenders to exercise forbearance because of being in less severe financial circumstances themselves. There would be mixed benefits for farmers not in trouble. Asset values would remain at higher levels, so individual balance sheets would be less negatively affected. Untroubled farmers, or other investors wanting to expand their asset base, however, would have to pay more to acquire assets. Lenders, of course, would be most affected by such policies since the basic purpose of the policies would be to protect them. Consumers and taxpayers would benefit from the increased stability associated with meaningful programs to keep asset markets from overreacting downward.

6. Other

Three additional approaches deserve brief mention. Farm price and income policies have been a traditional approach to raise farm income and ease financial problems. Improved income from such policies would increase the debt service capacity of farmers and would stabilize asset values at higher levels. But, in the current situation, the traditional approach falls short because a) cash shortfalls for the bulk of distressed farmers are so great (Bullock; Economic Research Service), b) the policies are very expensive, and c) needed adjustments of capital and resources out of the sector are restricted.

Monetary and fiscal policies clearly affect farmer well-being given their direct impact on debt service costs, carrying charges, and dollar exchange rates. Lower real and nominal interest rates would be helpful to the entire agricultural sector.

Given market indications that resources including human resources need to exit agriculture, increased attention should be given to programs and policies to help people make the transition out of farming. For too long, our efforts have worked to avoid exit rather than to assist in the adjustment out. Research studying displaced farmers gives disturbing results (Heffernan and Heffernan). Three-quarters of displaced farmers stay in the community, but close to one-half appear headed toward poverty. The personal trauma, social upheaval, and loss of productivity to the economy from ignoring this problem is a high price for society to pay.

CONCLUDING COMMENTS

The first wave of financial losses and business failures has hit U.S. farmers. It shows signs of continuing, even worsening. The fallout from that situation is now beginning to take its toll of farm lenders. A number of possible or likely adjustments to this new environment has been discussed under sector, firm, and short-term public policy responses. Many of these, and others, will be implemented as firm owners and public policymakers react to economic realities.

Clearly, resources have been, and will likely continue to be, revalued downward and forced out of the sector. Reorganization of assets and liabilities at the firm and sector level will proceed rapidly. More conservative financial strategies and rules of thumb by farmers and lenders will replace those of the last three decades. A major point of this chapter is that policies need to consider market stability and to minimize downward overreaction and an overly rapid rate of change.

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TOURISM DEVELOPMENT: A POTENTIAL FOR ECONOMIC GROWTH

By Glenn Weaver*

A sound economic base is essential to every nation and people. Numerous studies have attempted to show how poor economic conditions impact on health problems, crime and vandalism, divorce, and other social and economic concerns. This concern constantly challenges the Nation's leadership at every level. More and more states are realizing the economic growth potential found in tourism development. State offices of tourism are competing for state dollars to promote their states as the destination for tourists, promising legislators a good return on their investment for promotion budgets.

EFFECTS OF THE TOURISM INDUSTRY ON A COMMUNITY

Regardless of their reasons for traveling, tourists spend money—losts of money, which could help the economy in numerous communities. In 1983, $210 billion was generated from foreign and domestic visitors traveling within the United States, 6 percent more than the year before. The tourism industry, which has exploded during the past decade, contributes enormously to the United States economy. In 1983, the United States Travel Data Center calculated that travelers spent $196 billion within the United States on trips involving an overnight stay away from home and day trips to locations of 100 miles or more. This activity generated $47 billion in wage and salary income and an additional $24 billion in Federal, state, and local revenue. Each dollar tourists spend is like a pebble thrown into a pond—it creates ripples which reach every party of the community; every dollar they spend is respent several times. Forty-two States received more than $1 billion from travelers in 1983 while 16 States received more than 3.8 billion in travel spending.

Every State and every community is affected by tourism. Some have developed their economy around the activities and needs of travelers, selling them gasoline, food, lodging, souvenirs, entertainment, and other goods and services. Some communities encourage others to consider their community as the destination for their travels, while other communities capitalize on providing the pass-through traveler with the goods and services needed to get to some other destination.

Whether or not a community should try to establish itself in the tourism marketplace and whether or not it would be economically advisable is a decision the community should make only after considerable assessment and evaluation. Although the economic benefit is often the factor motivating most communities to get involved in tourism, many communities suggest the following as other positive benefits of tourism:

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Employment Opportunities;
Additional Income to the Community;
Diversification of the Economic Base;
Tax Revenues;
Community Visibility; and
Cultural Opportunities.

INCREASED EMPLOYMENT OPPORTUNITIES

The most impressive contribution of the tourist dollar to the American economy must be measured by jobs. Developing a tourist industry and attracting travelers will mean more income and profit for businesses receiving tourist expenditures. Travel directly generated 4.8 million jobs in 1983. Those jobs created by the travel industry surpassed those generated by private industry in 12 States. In 1983, for each $44,019 spent in the United States for travel/tourism, on the average, one job was directly supported. This industry stands out among U.S. industries in creating new jobs, resisting economic downturns, and providing a major source of jobs for minorities, women, and youth.

Tourism can be a substantial source of employment and an economic boost in general for the local economy. The tourist industry may provide another less identifiable employment benefit as well—new people, new skills and new industries may be brought into the community. This could make a community not only a better place to live and work, but may attract additional business and employment opportunities.

ADDED INCOME TO A COMMUNITY

Developing a tourist industry and attracting travelers will mean more income and profits for businesses receiving tourist expenditures. Studies have shown that travel expenditures vary almost directly with the number of visits and substantially increase if visitors stay more than one day. However, total expenditures by tourists in a community do not tell the whole story. Two important economic facts must first be understood before a reasonable estimate of the impact tourism might have on a community's economy can be made.

First, a part of the goods and materials used in sales by tourist-related businesses comes from outside the community. Therefore, payment is provided outside the community and does not directly benefit the local economy. However, the part of the tourist dollar that does stay in the area—usually wages, profits and additional expenditures from locally produced goods and services—does benefit the community. Local income from the tourist expenditures is largely respent in the area, leading to still more local income, more local expenditure, and so on. A good example of direct and indirect benefits was demonstrated by a local study of Jackson Hole, Wyoming. Being a popular outdoor recreational area, the study showed that 56 percent of the total sales in the area resulted from direct tourist expenditures and that an additional 22 percent resulted from the indirect effects of income generated from the initial purchases, for a total of 78 percent of sales due to tourism.

DIVERSIFICATION OF A COMMUNITY'S ECONOMIC BASE

Any community which depends on one or a few large industries respects the need for diversification. Whenever a localized or national economic fluctuation has occured, these areas may experience high unemployment and the resultant economic and social consequences. Cities welcome any kind of legitimate industry, but generally recruit new industry. Industries may not be interested in entering an area with a declining tax base. Tourism, however, can possibly fill this gap.

Cities are a normal and natural destination for visitors as are scenic outdoor recreation areas. Tourism is growing and will continue to do so not only because income and leisure time are more plentiful but because tourism is largely underdeveloped in America. Since the labor force is essentially in one place, tourism requires little or no increase in costly public facilities—schools, hospitals—for the workforce. The tourist himself requires few of these. Tourism is clean and therefore attractive to businessmen and residents alike.

TAX REVENUES

Generally, as the tourist industry expands, so does tax revenue. The most important tax from the community point of view is the sales tax. When tourist expenditures are high, so are sales tax revenues. Although estimating the impact of these additional tax revenues is difficult, rough estimates indicate a figure of nearly 15 percent of total revenues. In these same cities, this not only pays the tourist's way, but goes a long way to head off a financial crisis.

Special taxes are often levied by communities, aimed specifically at tourists. The "occupancy" taxes and entrance fees are based on the rationale that tourism imposes certain public costs, such as increased police protection, lifeguards, additional public facilities, upkeep of monuments and museums. This is particularly true in rural, outdoor recreational areas where tourism and its costs are more clearly identified.

Of considerable importance in many areas is the decline of local amenities such as museums, monuments, libraries, historical sites, and entertainment districts. Other areas are unable to develop parks, recreational areas, and other local attractions because of insufficient funding. These types of communities may find tourism to be a solution that provides the marginal profit and revenue balance needed to maintain or to develop these services. These facilities are then available for local use as well.

COMMUNITY VISIBILITY

A tourism industry produces other less tangible economic benefits for a community—visibility. Visibility is essential if a community is to attract new businesses and industry. The effort put forth by a community to establish and maintain a good image pays dividends in many ways. It should be remembered that much of what attracts visitors also attracts industry. New businesses, or ones relocating, seek a popular and pleasant place to do their work as well as a profit from a growing tourist trade.

CULTURAL OPPORTUNITIES

The potential cultural benefits from tourism, though less obvious than economic benefits, may be equally significant. A carefully planned, well organized tourist business can benefit the resident through exposure to a variety of ideas, people, languages, and other cultural traits. It can add to the richness of the resident's experience by stimulating an interest in the area's history through restoration and preservation of historic sights. Tourism development can add features of entertainment for the resident as well as the visitor.

Tourists have more to offer a community than their dollars. They bring with them a variety of ethnic, geographic, and sociocultural experiences. By establishing contacts between people of different backgrounds, tourism offers vast opportunities for people to know and understand one another in a direct way.

TOURISM DEVELOPMENT

Benefits from tourism do not just happen to a community. A few individual businesses may capitalize on tourist trade, but for a community to reap maximum benefits, it must have a design. This design should include legislation which encourages the development desired by the community and controls the undesirable development. It may also need to establish a tax system to provide revenues to develop and promote travel objectives and services.

Whether or not a community should seek to increase its profit by encouraging greater tourist activity or whether it should try to develop tourism as an industry depends on numerous factors such as:

Community interest;
Needs of the community that tourism could meet;
The relationship of benefits of tourism to the cost of a tourism program;
Availability of attractions and services; and
Relationship between location and potential markets.

If a community determines that tourism offers enough benefits to justify expansion or development, careful consideration must be given in determining the type of development and community investment to be made. The following suggestions are offered as guidelines for tourism development:

1. Community-wide support is essential.
2. A complete inventory of the attractions and services desired by tourists must be made.
3. Community involvement in determining the type of industry and its goals are essential.
4. Specific goals should be established for each potential benefit.
5. A formal leadership structure should be established to give leadership and direction to tourism development. This group should be representative of the various community interests.

6. Careful attention should be given to the type of market the community desires.

7. A detailed plan should be developed for the type of tourism industry the community desires. This plan should include but not be limited to:

A basic philosophy about tourism and its development in your community.

A mechanism for coordination of various programs, attractions and activities.

A mechanism for coordination of governmental and private interest.

A system of collecting tourism-related information.

A system of financing the operations of the community tourism effort.

A system of communication and education among community leaders and the general population of the area.

CONCLUSION

Concern for economic development has caused thousands of communities to consider the potential of tourism as a part of their economic development plan. Hundreds of communities have demonstrated that tourism can be the number one revenue producing industry in their community. If a community is interested in tourism development as a way to broaden its economic base, and has examined its potential and adopted a plan, the community could reap innumerable benefits.

Education and Health

RURAL COMMUNITY COLLEGES: VENTURE TEAM FOR SUCCESS

By D. Kent Sharples *

When community colleges were established almost 40 years ago, the precipitating notion governing the conceptualization of most of them was that there were segments of the American population who for one reason or another were unable to tap into the economic, social, or educational resources available to middle or upperclass Americans. These segments were predominately found in urban areas and were comprised mostly of disadvantaged minority groups, the poor, and women.

Since then, the community college movement has experienced tremendous growth. According to statistics published by the American Association of Community and Junior Colleges, the number of two-year colleges grew from 584 in 1943 to 1,219 in 1983. However, the true impact of the growth of the two-year college system can be more adequately assessed by looking at the enrollment growth over that same period. The number of students enrolled in curriculum courses at two-year colleges mushroomed from 107,807 to almost 5 million in just four decades. These figures represent an enrollment increase of 4,630 percent and do not take into account an additional 4.5 million students reportedly enrolled in non-credit-course work. Such rapid growth takes on even more dynamic proportions when one realizes that the total population of the United States grew only 165 percent during these same 40 years.

Not all of the amazing growth occurred in the urban areas. The community college concept spread to the rural areas as well where, for the first time, easy access to higher education at a low cost became a reality for the rural population, both young and old. However, unlike their urban counterparts, most rural community colleges found that their service areas have only one economic base—agriculture. Therefore, as the economic plight of the agricultural community became worse over the years, the rural community college began to assume a natural leadership role in rejuvenating and/or restructuring its community's narrow economic base.

By offering occupationally oriented programs which are designed to fill existing job openings, the rural community college has been able to serve as a catalyst in community-wide efforts to broaden and diversify the economic base of the rural community. Conse-

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quently, there is a well developed infrastructure of advisory committees consisting of local business and industrial leaders who generally look at the community college as a resource for their employment needs.

Along with their occupationally-oriented course offerings, most community colleges offer noncredit programs which are designed around recognized short term training needs identified by groups of people or suggested by industry. Additionally, community colleges are frequently called upon to do specific training for a new industry or company.

With all of these currently ongoing activities, the two-year college has generally been recognized by the community at large as an effective supplier of local employment needs.

The transition from being the supplier of employment needs to becoming the focal point for economic development is both a natural and straightforward progression. It starts with a clear definition of the community college's role in economic development and leads toward the establishment and ultimately the attainment of realistic goals which will have a positive impact on the community's economic climate. However, before a college can become actively involved with shaping the economic picture of the community it serves, the chief executive officer and board of trustees of that institution must be in agreement that the college has a rightful place in the economic development activities of the community. Not only must they recognize and sanction the community college's role in economic development, they must also be willing to commit what are often very limited resources to facilitate an ongoing interaction with any number of public agencies and private companies.

Additionally, the college's leaders must continually think of their educational institution as an equal partner with other public/private groups and agencies, many of which view the facilitation of economic growth and development as their only function. The priority placed on economic development presents a challenge to the college's leaders, for faced with the need to meet the day to day demands of operating an institution of higher education, it is often difficult to keep pace with "partner" agencies. However, if the college is to succeed as a team member in economic development, it must do more than "keep pace." It must assume an active leadership role and become a key contributor to the community's economic success and stability. And once the commitment has been made to assume an active role in shaping the growth and development of the local economy, the college must be relentless in its efforts to fulfill that role regardless of its demands or constraints, for in the world of economic development, nothing is worse than being unable to deliver on a commitment that has been made.

With a commitment to become involved with the economic development of the community, the college can define its role in two broad areas. The first area deals with the development of programs and support mechanisms to help sustain existing industry. It is well known that the heart of any local economy is based on the well being of the existing businesses and industries which in rural communities includes agriculture, aquaculture, and tourism as well as manufacturing. It is also well known that it is much easier to keep existing jobs than it is to locate and develop new industry.

Therefore, a commitment to support existing industry should be the community college's entry point into economic development.

Obviously, our most definable role with existing industry will be as a training center for their work force. With the impact of rapidly changing technology on all industry, the need for swift and specific response to shifting manufacturing processes is critical to industrialists whose economic life hangs on their ability to keep pace with the competitive nature of these changes. Once a decision has been made to update a manufacturing process, time becomes critical. Adopting new technology and techniques requires that the chief executive officer concentrate on the physical conversion as well as the retraining and cross-training of his work force. If the chief executive officer can rely on the two-year college to retrain his workers, then he can concentrate his efforts on the physical and managerial adjustments.

One of the most successful forms of employee training or retraining a college can offer involves using the DACUM (Developing A Curriculum) process to accurately assess and prioritize the training needs of a company. This process allows the college and the industry to establish a training schedule which may take as little time as a month or as long as three years. When implemented, the DACUM process offers three distinct advantages. It allows both employees and their supervisors an opportunity to identify and target the specific skills required; it gives employees the privilege of helping design their own training needs, and it helps to develop specific job descriptions which include career paths and suggested training/education for promotion or salary increases. Through this process, the workers can plan or plot out their own ascension up the career ladder within the firm, be it in the professional or nonprofessional ranks.

If the community college can satisfy a company's training/retraining needs in a timely and substantive fashion, it will win the trust and respect of the company's chief executive officer and further cement its bond as a vital partner in the economic development process. It is, therefore, critical to remember that if the community college is to enchance or retain its credibility as a provider of specific job training, it *must not* commit to anything that cannot be accomplished. It is also important that the college personnel assigned to work with the company carefully explain that the expertise the college brings to the situation is as training specialists and not necessarily as specialists in the specific skills to be taught.

With one or two successes in this area, a college will soon be recognized as a vital part of any manufacturing reconfiguration. In many instances, smaller companies will begin to think of the college as "their" training division and call on the college to provide a wide variety of educational programs for them. The benefits for this type of work are numerous.

First, the college, depending on the state or local reimbursement formula, generates funds as a result of training programs. Second, the college is able to access the older adults/students in its service area who have traditionally been difficult to reach. For example, students in specific training programs can be encouraged to be lifespan learners and to continue their education by enrolling in future courses. Often when a college becomes involved in the retraining of a work force, employees who first viewed their impending job shift with great apprehension soon develop very positive attitudes toward the institution which helped them make a smooth transition into their new jobs. Consequently, people who have been involved in a retraining program represent the most viable source of recruiting outside of the area high schools.

Third, through contracts for training, resulting from activities like the DACUM process, the college can begin to more accurately project its enrollment and revenue from non-credit-education programs. When a company has recognized the college as its training agency, specific contracts will be generated which may outline the college's involvement over a one, two, or three year period. Thus, if a college has several such contracts, a plan of work can be laid out and more accurate staffing projections can be made.

Finally and most important, through direct, positive involvement with the economic leaders in the community, the college will begin to develop a zealous group of advocates whose support will be invaluable for any number of reasons as the years go by. Corporate leaders and boards who perceive the college, first as an agency which helped them through a critical reconfiguration, and later as the training division of their company, will begin to see the college as an ally rather than simply a supplier from whom they occasionally hire a few employees. Once this happens, corporate leaders will begin to view the college from a completely different perspective. In a recent personal example, a chief executive officer stated, as he signed a $250,000 pledge to the college foundation, that he regarded his donation as not only a financial commitment to the college, but as a financial commitment to the future health and well being of his own corporation as well.

The second and more difficult area of economic development deals with the efforts of the local community to recruit new industry to provide new jobs and increase the tax base. It is more difficult for the community college to define a specific role in this process. A college's invitation to join forces with other agencies in recruiting new industry into an area will depend upon how the college is perceived by governmental officials who are in charge of this effort. Thus, in order to mold those perceptions into positive images, the college must establish a successful track record in dealing with existing industry and be vocal about its commitment to support economic development in the future.

Most States utilize a statewide effort in the recruitment of new industry, usually through a state economic development board which is backed up by a system of county economic development boards or agencies which prepare and present specific information regarding the local community to industrial prospects. The local effort can be spearheaded by a board appointed by the county government, a chamber of commerce, a group of citizens organized to support economic development (sometimes called "Committees of 100") or any combination of the above. An essential first step for the rural community college president is to identify the specific structures which influence and direct the economic growth and development in the college service area, and then seek status as a permanent member of the appropriate governing boards.

Since the college president's involvement in this area will require a considerable amount of time, it is again imperative to state that the college's board of trustees must give their full support to the president's economic development activities. Recruiting new industry to the community must become a top priority. Whenever an industrial prospect comes to the area, he must receive the undivided attention of the local recruiting team during his brief visit. If the president of the college is selected as a part of the team, he/she must be willing to drop everything to support this effort.

College personnel also should work closely with local officials to create incentives that will assist in the recruiting effort. In some states, financial support and personnel are provided to develop special training programs that are offered free to a new or expanding industry as an incentive to locate in a service area. In the absence of state support, a program that can be offered without charge can be developed relatively easily if it is supported by the local government or the college. Organizing this type of initiative illustrates the college's willingness and desire to be an integral part of the local economic development effort.

Needless to say, faculty involvement is a primary ingredient, and the college should provide released time for faculty to assist in economic development, both in the planning and recruiting process as well as in designing programs for existing industry. Involvement in the economic development of the community is often a refreshing form of renewal for faculty members, and the benefits of such involvement are not exclusive to the recipients/trainees outside the college, but often spill over into the classroom as well. Additionally, involving the faculty gives them insight into the complex process of economic development and further establishes the college as a totally integrated partner engaged in activities which have a direct impact on the community.

Beyond these broader aspects of the recruiting process, the college can also be involved in such areas as editing and printing economic development brochures, photographing or video taping promotional materials for economic development agencies, surveying industrial sites, providing forestry management services to prepare industrial sites, and offering any other services that can be adapted to curriculum projects.

Recent data shows that there has been a shift nationally toward more occupationally oriented programs being offered by community colleges. Generally, these programs have been designed to closely parallel the employment needs of the colleges' service areas. As a result of this shift, colleges have gradually become heavily involved in economic development. In most instances this shift has brought about a conscious realization that the future success of the college is dependent upon its interaction with the economic power structure of the service area.

Rural community colleges now have a natural base from which they may establish their position as a partner in the economic development process. Most colleges are already involved in this exciting endeavor and may only need to identify or clarify their current level of support and set realistic goals for the future in order to become valuable, full-time players on the economic development team.

RURAL ECONOMIES, TAX STRUCTURES, AND MEETING THE DEMAND FOR STATE-LOCAL GOVERNMENT SERVICES: A FOCUS ON LOCAL SCHOOLS

By David L. Chicoine and Gordon A. Hoke *

Different economic patterns across the country and across sectors have received considerable attention, particularly in light of the poor performance of agriculture, in recent years. For example, the weakened condition of agriculture and the loss of manufacturing jobs are a significant source of hardship in the midwest. Prior to 1950, agriculture was the primary sector in the economy of rural areas. However, over the last 20 years nonfarm jobs have expanded in most rural areas reducing the economic dependence on farming.

Economic diversification, though, has not been universal. There are still over 700 of the 2,443 rural counties in the United States that depend more heavily on agriculture as a basic economic activity (Bender *et al.*, 1985). The recession in the farm sector has increased interest in understanding the economic importance of agriculture and the linkages between farming, the agricultural complex and nonfarm sectors (e.g., Manchester, 1985). These linkages are important in understanding the implications of the restructuring underway in agriculture for the performance of rural economies in the remainder of the century.

The purpose of this chapter is to provide some understanding of the changing economic conditions in rural areas and rural States for the financing of State/local government services. The health of a State's economy is critical to the provision and financing of public services and is often an overlooked factor. Because of the importance of local schools, they are given special attention. During the last decade, State governments significantly increased their role in financing local schools. Between 1978 and 1983, States provided 57 percent of all new school revenues (Augenblick, 1984). Spending on primary and secondary education now accounts for about 33 percent of total general fund spending by State governments (Gold, Eckl, and Price, 1985). Calls for reforms such as raising the base salary level of teachers, enhanced program offerings, providing merit pay, creating career ladders, and extending the school day or the school year because of dissatisfaction with the performance of local schools keep the financing of schools a leading State and local government budget issue.

This chapter has two major sections. The next section classifies the rural economies of States and overviews the characteristics of

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State/local tax systems. The second section compares and contrasts local school finance in States with farm dependent rural areas and manufacturing dependent rural areas. The chapter closes with a discussion of implications for public finance policy.

STATES, RURAL ECONOMIES AND STATE/LOCAL TAX STRUCTURES

Two major determinants of the performance of a public finance system are underlying economic conditions and the tax structure employed to raise needed revenues. Table 1 shows the type of rural economy dominant in each State and general characteristics of State-local public finance systems. The character of the rural economy for each State was determined from the percent of nonmetropolitan counties with economies dominated by farming, manufacturing, mining, Federal lands, or a diversified structure following the classification scheme of Bender, *et al.* (1985). Farm dominated counties, for example, had 20 percent or more of labor and proprietor income from farming from 1975 through 1979.

For some States, a primary and secondary dominant sector is listed. The number in the first column is the rank of the top 12 States with farming, manufacturing and diversified rural economies. Iowa, for example, ranked fourth among States with rural economies dominated by farming (59.3 percent of rural counties) and fifth (25.3 percent of rural counties) among States ranked by percent of rural counties with diversified local economies. The 12 States with the largest percent of counties with farming dependent economies are the seven Plains States (North Dakota, 1st, Nebraska, 2nd, South Dakota, 3rd, Iowa, 4th, Minnesota, 5th, Kansas, 8th, and Missouri, 10th) plus Illinois (9th) from the Great Lakes region, Arkansas (7th) from the Southeast and Montana (6th), Idaho (11th), and Colorado (12th) from the Rocky Mountains.

The top 12 States with rural economies dominated by manufacturing came from the New England area (New York, 8th, and Maine, 10th), the Mideast (Pennsylvania, 1st), the Great Lakes region (Ohio, 2nd, and Indiana, 7th) and the Southeast (South Carolina, 3rd, Tennessee, 4th, Alabama, 5th, North Carolina, 6th, Georgia, 9th, Mississippi, 11th and Virginia 12th). While rural regions in some States are very dependent on agriculture, rural counties in other States are dominated by manufacturing activities or have a diversified local economy. Accordingly, the implications for the financing of public services of the restructuring of American agriculture will be most sever in the western Great Lakes region and the Plains States. Similarly, the technological upgrading and reorganization of the manufacturing sector will be important in determining the fiscal condition of State and rural local governments in the Great Lakes States of Ohio, Indiana, Wisconsin, and Michigan.

State-local government finances have gone through very diverse periods in the last two decades. From the 1960's to the late 1970's, State/local government was very much a growth industry with sector spending growing faster than Gross National Product. Contributing to the growth were shifts away from the property tax and the adoption of more elastic income and sales taxes. A major force in the shifting tax structure was the growing need for school spending and the general unpopularity of the property tax, the traditional source of school revenues. Increased Federal aid during this period also impacted the rate of expenditure increase (Hansen and Cooper, 1980). Real growth and inflation produced sizable surpluses in several States by the mid-1970's. Budget surpluses coupled with the Tax Revolt, exemplified by the passage of Proposition 13 in California in 1978, initiated unprecedented tax cutting. During the 1978 to 1980 period 32 States provided tax rebates or permanent tax relief to income and/or sales taxpayers and numerous State and/or local tax/spending limits were adopted. The recession of the early 1980's in concert with reduced Federal aid placed severe fiscal stress on States forcing tax increases. Half the States raised sales or income taxes in 1983. Many States reversed these increases in 1984 and 1985 as the economic recovery and the increased tax rates brought fiscal relief (Gold, Eckl, and Price, 1985).

The differences among the fiscal systems of the 50 States are so great that very few generalizations apply to all 50. For example, while North Dakota and Montana are among the most farm dependent States, severance taxes from energy resources account for over 29 and 25 percent, respectively, of their total State tax revenues. Listed in Table 1 are general characteristics on tax burden, decentralization, and property tax dependence. The U.S. average State-local taxes per $1,000 personal income was $117 in 1984. Although business and severance taxes make cross-State comparisons of tax burdens on individuals difficult, this measure provides some indication of tax levels supporting State-local government services.

TABLE 1.—CHARACTERISTICS OF STATE-LOCAL PUBLIC FINANCE SYSTEMS

State/region	Dominant rural economies		Public finance characteristics					
				Measures of decentalization			Property tax reliance	
	Rank in top 12	Type	State-local tax burden	Local taxes/State-local taxes (percent)	Local spending/State-local spending (percent)	Schools/State-local spending (percent)	PT/State-local taxes (percent)	Local school finance (percent)
New England:								
Connecticut		M/	$112(27)	40.9	50.3	24.0	40.4	58.9
Maine	10/	M/	126(12)	35.3	46.6	23.9	36.0	42.3
Massachusetts		M/	117(19)	35.0	51.4	22.2	34.5	55.8
New Hampshire	/7	M/D	93(49)	60.4	53.6	24.9	60.1	89.7
Rhode Island		—	121(14)	40.0	40.1	20.7	40.0	59.6
Vermont	1/	D/M	129(10)	38.7	38.4	22.9	38.6	59.1
Mideast:								
Delaware		M/	112(26)	16.9	40.3	22.2	14.1	23.3
Maryland	2/	D/M	117(20)	39.6	56.0	23.2	25.3	53.9
New Jersey		—	117(21)	42.0	62.2	26.6	41.5	57.0
New York	8/	M/D	165(3)	50.2	67.1	22.1	30.5	54.7
Pennsylvania	1/12	M/D	114(24)	38.4	58.4	25.9	26.3	50.1
Great Lakes:								
Illinois	9/6	F/D	114(25)	46.2	59.3	23.3	36.6	53.4
Indiana	7/	M/F	105(38)	32.7	61.1	26.8	31.2	40.7
Michigan		M/	138(5)	40.1	56.8	24.8	38.1	60.7
Ohio	2/	M/D	111(28)	40.4	60.3	26.0	29.8	51.7
Wisconsin	8/	D/	138(6)	31.0	61.9	24.3	32.8	56.7
Plains:								
Iowa	4/5	F/D	119(17)	39.5	58.9	24.4	38.7	53.5
Kansas	8/3	F/D	103(39)	41.7	62.5	25.7	37.1	52.3
Minnesota	5/	F/D	144(4)	28.5	62.2	23.3	27.3	49.6
Missouri	10/10	F/D	93(48)	39.8	59.1	26.8	23.1	53.7
Nebraska	2/9	F/D	111(30)	46.0	60.5	26.9	41.2	64.5
North Dakota	1/	F/D	115(23)	25.2	44.7	22.7	24.5	41.1
South Dakota	3/	F/D	100(43)	48.0	47.7	24.8	41.5	63.7
Southeast:								
Alabama	5/	M/F	100(44)	26.0	51.0	21.2	12.1	19.7
Arkansas	7/	F/M	97(45)	24.2	52.0	27.1	19.7	33.0

TABLE 1.—CHARACTERISTICS OF STATE-LOCAL PUBLIC FINANCE SYSTEMS—Continued

State/region	Dominant rural economies		Public finance characteristics					
				Measures of decentalization			Property tax reliance	
	Rank in top 12	Type	State-local tax burden	Local taxes/State-local taxes (percent)	Local spending/State-local spending (percent)	Schools/State-local spending (percent)	PT/State-local taxes (percent)	Local school finance (percent)
Florida		F/M	95(47)	37.7	69.1	24.6	32.6	38.1
Georgia	9/	M/F	105(37)	36.9	59.8	22.6	26.7	33.4
Kentucky		MX	102(40)	21.2	43.3	21.6	18.1	18.7
Louisiana	4/	D/M	109(31)	32.0	50.3	20.4	14.9	32.1
Mississippi	11/	M/F	108(32)	23.0	55.1	21.5	21.7	25.3
North Carolina	6/	M/F	106(34)	26.8	56.5	26.3	22.3	28.5
South Carolina	3/	M/	108(33)	26.3	50.6	26.2	24.5	28.7
Tennessee	4/	M/	93(50)	39.4	55.1	21.5	24.2	41.8
Virginia	12/	M/	101(41)	40.4	54.8	27.3	28.3	50.5
West Virginia	/11	MG/D	121(15)	21.1	47.3	27.2	17.2	29.3
Southwest:								
Arizona		MG/	121(16)	33.6	65.7	23.7	28.1	40.5
New Mexico		MX	126(11)	19.0	51.5	25.4	12.4	12.8
Oklahoma		MX	106(36)	30.3	55.4	26.8	17.2	26.5
Texas		F/D	97(46)	44.9	64.9	29.5	34.0	44.6
Rocky Mountain								
Colorado	12/	F/FL	106(35)	49.9	64.8	25.7	33.2	54.4
Idaho	11/	F/M	101(42)	28.0	54.5	23.6	26.8	31.7
Montana	6/	F/MG	129(8)	44.5	54.9	28.0	46.2	46.0
Utah		MG/FL	129(9)	36.1	52.1	26.4	27.9	40.2
Wyoming		MG/FL	209(2)	37.3	62.9	28.3	43.9	66.8
Far West:								
California		F/FL	115(22)	33.5	66.5	20.9	25.6	26.1
Nevada		FL/	111(29)	30.2	67.6	18.3	22.1	47.9
Oregon		M/FL	124(13)	47.6	57.3	26.2	43.2	64.7
Washington		F/M	118(18)	26.3	56.1	24.2	27.9	19.4
Alaska		N/A	286(1)	16.1	43.9	19.2	18.5	16.0
Hawaii		N/A	129(7)	22.1	20.2	16.5	18.0	.04

U.S. average		117	38.5	60.0	24.1	30.1	44.8

The first dominant sector is followed by the second dominant sector; only one sector listed indicates no clear second sector. Dominance is percent of nonmetro counties in a particular category.
M equals manufacturing; S-L Tax Burden equals state-local taxes per $1,000 income 1984.
F equals farming; L Taxes/S-L Taxes equals local taxes as percent of state-local taxes, 1984.
D equals diversified; Local Spending/S-L Spending equals local spending as percent of state-local spending from own revenues, 1984.
MG equals mining; School/S-L Spending equals general school expenditure as percent of total general state-local expenditures, 1984.
FL equals federal lands; PT/S-L Taxes equals property taxes as percent of total state-local taxes, 1984.
MX equals no dominant sectors; Local School Finance equals percent of school spending financed locally, 1984.
Rank equals top 12 states in F, M, and D are ranked. As indicated some states are among top 12 states in more than one type of economy (number in parentheses under S-L tax Burden are the state rank).

Sources: Bender, Lloyd, et al. 1985. "The Diverse Social and Economic Structure of Nonmetropolitan America." RDRR 49, ERS, Washington, DC. USDA (September). U.S. Census Bureau. 1985. "Governmental Finance in 1983-84," Washington, DC, Government Printing Office (October). U.S. Census Bureau. 1985. "State Government Finances in 1984," Washington DC. Government Printing Office (December). National Education Association. 1984. "Estimates of School Statistics 1983-84," Washington, DC (April).

The State-local tax burdens, along with the other characteristics in Table 1, evidence a more distinct regional pattern than a pattern associated with the type of dominant rural economy. Discounting the energy States, New England States and those in the Mideast are more likely to have burdens above the national average of $117/$1,000 personal income while the Southeastern States are all below the national average with Midwest and Plains States falling close to the national average.

Comparing the percent local taxes are of State-local taxes with the percent local spending is of State-local spending provides evidence on the decentralization in State-local tax and spending systems. Taxing authority is most decentralized in New Hampshire and most centralized in New Mexico (excluding Alaska and Hawaii). Among the farm dependent States, Colorado and South Dakota have the most decentralized tax systems while Minnesota, North Dakota, and Arkansas have the most centralized. A centralized State-local tax system coupled with a more decentralized State-local spending structure indicates State intergovernmental aid is a significant local government revenue and a significant State expenditure. Nationally, local taxes accounted for 38.5 percent of State-local taxes while local government spending was 60 percent of State-local spending. In general, local school spending accounts for about 25 cents out of every dollar State-local governments spend on services.

In general, the more decentralized the State-local tax system, the more dependent systems are on property taxes. Although, local governments use of sales and income (wage) taxes has grown, property taxes remain the major source of own tax revenue. The characteristics of the property tax provide advantages for the financing of local government services and are critical for a decentralized structure of local governance (Chicoine and Walzer, 1985). The pattern of property tax dependence is regional with New England States and Great Lake States relying more on this revenue source with the southern and Western States using the tax relatively less. The States with farm dominated rural economies lie in between with the exception of Nebraska, South Dakota, and Montana. These States depend on property tax receipts for over 40 percent of State-local tax revenues. Kansas, Iowa, and Illinois depend on this tax for between 36 and 39 percent of tax revenues.

A major force driving property tax dependence in State-local tax systems is the distribution of responsibilities for financing local schools. In general, the more property tax dependent a State-local tax system, the larger the proportion of school spending financed locally. For independent school districts the main source of own tax revenue is the property tax (Iowa schools now have an optional piggyback income tax). Although major "reforms" in school finance in the U.S. have reduced reliance on the property tax for schools, the tax still provides the majority of local tax revenues (Augenblick, 1984). All of the States with farm dominated rural economies except Idaho, North Dakota, and Arkansas are more dependent on local funds to finance schools than the national average (44.8 percent). The range is from 64.5 percent local financing in Nebraska to 49.6 percent in Minnesota. The structure of school finance in States with manufacturing dependent rural economies mirrors the region where a State is located.

CHARACTERISTICS OF LOCAL SCHOOLS IN FARM AND MANUFACTURING DOMINATED STATES

Additional evidence on school organization and finance in the 12 States with farm dominated and manufacturing dominated rural economies is given in Table 2. In general, the farm dominated States have more school districts and a significantly larger percent of "small" schools. Most farm States have well over 50 percent small schools while among the manufacturing States only Maine has over 50 percent small schools. Farm dominated States generally spent more per pupil compared to the 12 rural manufacturing States. This could be related to a number of things including economies of scale, program variations and regional differences in demand (Fox, 1981).

TABLE 2.—ORGANIZATIONAL AND FINANCIAL CHARACTERISTICS OF LOCAL SCHOOLS IN STATES WITH RURAL ECONOMIES DOMINATED BY FARMING AND MANUFACTURING

Type of rural economy	Number of school systems [1]	Percent small schools [2]				State aid formula	Percent State financing 1984	Measure of local ability-to-pay for schools	Expenditures per pupil 1984
		K–8	9–12	K–12	Total				
Farm:									
1. North Dakota	667	([3])	NHS	76.7	76.7	F	56.4	PW	$3,307
2. Nebraska	1,000	65.3	2.2	21.5	89.0	F	28.5	PW	2,927
3. South Dakota	187	1.6	NHS	83.9	85.5	F	26.9	PW	2,657
4. Iowa	456	NES	NHS	73.2	73.2	F	41.0	PW	3,239
5. Minnesota	434	([3])	NHS	64.2	64.2	F	54.1	PW	3,376
6. Montana	399	56.6	1.8	24.0	82.4	F/GY	45.3	PW	3,631
7. Arkansas	370	([3])	NHS	71.4	71.4	F	54.3	PW	2,738
8. Kansas	326	NES	NHS	72.9	72.9	GY	44.2	PW/Inc	3,361
9. Illinois	1,047	20.9	3.6	24.6	49.1	GTB/F	37.7	PW	3,397
10. Missouri	556	16.5	NHS	51.6	68.8	F	55.3	PW/Inc	2,714
11. Idaho	117	7.7	NHS	50.4	58.1	F	64.1	PW	2,219
12. Colorado	185	1.1	([3])	58.4	59.5	F	42.0	PW	3,261
Manufacturing:									
1. Pennsylvania	514	NES	NHS	5.4	5.4	EQ/F	45.4	PW/Inc	3,725
2. Ohio	667	([3])	0	14.8	14.8	F	43.9	PW	3,090
3. South Carolina	92	NES	NHS	6.5	6.5	F	59.3	PW	2,657
4. Tennessee	146	NES	NHS	8.9	8.9	F	45.9	PW	2,173
5. Alabama	127	([3])	NHS	2.4	2.4	F	67.3	PW/Inc	2,102
6. North Carolina	201	NES	NHS	9.5	9.5	F	61.7	none	2,460
7. Indiana	304	2.3	0	12.2	14.5	F	53.6	PW	2,730
8. New York	761	4.3	([3])	25.0	27.3	EQ	41.3	PW/Inc	4,845
9. Georgia	187	2.1	NHS	3.7	5.8	F	58.6	PW	2,309
10. Maine	230	40.4	([3])	16.1	56.5	F/GTB	50.9	PW	2,829
11. Mississippi	173	NES	NHS	5.7	5.7	F	55.3	Inc/ST	1,962
12. Virginia	135	NES	NHS	5.9	5.9	F	43.0	PW/Inc/ST	2,967

[1] Tennessee, New York, Maine and Virginia have 15, 35, 144 and 94 dependent school systems. In Maine, for example, most are town schools while in the other 3 States schools are dependent on county or municipal government.

[2] A small elementary or high school systems is defined as less than 500 pupils; a small K–12 school system is defined as less than 1,000 pupils.

[3] A very f [illegible] systems listed, for example, one, two.

NHS eq [illegible] separate high school systems; NES equals no separate elementary school systems; f equals foundation program; GY equals guarantee yield; GTB equals guarantee tax base; EQ equals equilization aid; PW equals property tax base; Inc equals persona [illegible] e; ST equals sales tax base.

Sources: U.S. Bureau of Census. 1983. "Governmental Organization," 1982 Census of Governments, Washington, DC: Government Printing Office (August). Education Commission of the States. 1984. "School Finance at a Glance Chart." Denver, CO: ECS.

Most States allocate school aid to local districts through foundation formulas and use property tax wealth, generally adjusted for the number of pupils, as measures of ability-to-pay for local schools. The exceptions are Kansas and Missouri that also look at personal income. Half the manufacturing dominated States use measures that include income and/or sales tax base in addition to property tax wealth in distributing State school aid.

SUMMARY AND POLICY IMPLICATIONS

The State-local public finance systems in the farm dominated States are generally more decentralized and thus relatively more dependent on the property tax. Schools are thus more likely to be locally financed with less support from State government. Farm dependent States also have relatively more school systems, a higher proportion of smaller schools and generally spend more per pupil. This reflects the lower population density in farm dominated areas and possibly higher costs for educational services.

Three major fiscal problems face States, in general, and local schools, in particular. First, expenditures, necessary to maintain and improve the educational system as advocated in the numerous reform documents, will increase. However, there is mounting evidence that the fiscal capacity in some regions to respond is limited (Geske and Hoke, 1985; Chicoine and Langston, 1985). In farm dominated States, the restructuring of the farm sector and associated asset devaluation will further reduce the capacity to finance services, like schools, dependent on property taxes. Because of State school aid systems, the decline in local tax bases increases State budget exposure and the demand for State funds to maintain service levels. Second, increased budget exposure comes on top of several years of State budget fiscal pressures. For example, of the 12 farm States, only four are expected to end FY1986 with a general fund balance above 5 percent of expenditures, the fiscally prudent level. Eight of the 12 will have lower fund balances compared to the end of FY1985. States, particularly farm dominated States, may not be able to maintain, much less increase, their support for education during the coming years. It is unlikely that States will raise tax rates in the near term, causing State revenue growth to depend on general improvements in the economy. For farm dependent States, the prospect for near-term improvement is limited. The result could be a reversal in the trend to less reliance on the property tax to finance local schools. This will come when local property tax bases are adjusting to the new economics of American agriculture.

The third implication that exacerbates the fiscal stress for State and local governments is the expected continued decline in Federal intergovernmental aid. The dependence of States with farm dominated rural economies on Federal aid to finance State-local services is generally close to the national average of 19 percent. How State and local policymakers deal with these issues will shape the fiscal structure for financing local schools and other demanded services in rural areas through the rest of the century.

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HEALTH IN RURAL AMERICA: PROBLEMS AND RECOMMENDATIONS

By J. Stephen Wright and Dale W. Lick *

Contrary to popular opinion, rural [1] America, land of fresh air and unharried lifestyle, is not necessarily a picture of health, nor is country-living a panacea for longer life. Recent evidence suggests that equating ruralness with good health is a myth. Statistically, rural America more nearly fits the description of what has been called a "health disaster area" [1].

Much has been done since the early 1900's in this country to improve the health of its residents. The investment of federal and State dollars has paid off. According to the Nation's average health indicators, the overall result has been successful. However, the rate of urban improvement has far outstripped that of rural America. The gap between the health of the rural and urban, populations has actually widened.

This chapter examines selected aspects of rural health status, the health system and the demography of rural America. It presents evidence that rural Americans are a population at risk in nearly every major disease category, and, at the same time, underserved by practically every type of health professional.

This double jeopardy is not shared by urban America, for whom the case is quite the opposite. Urban America not only enjoys a higher level of health but also has a greater number of health professionals per population to provide care. The final section of this chapter suggests measures for improving rural health and closing the gap between the rural and urban populations.

HIGH RURAL MORTALITY

There is recent evidence from studies in such States as Georgia, that rural residents are afflicted with higher death rates than would be expected [2][3]. A comparative study of 1979 mortality in rural and urban areas of Georgia revealed much higher rural death rates [2]. The crude death rate in rural Georgia was 29 percent higher than in urban Georgia, a large difference which was unexpected.

The investigators analyzed the mortality data by specific cause of death and again found a heavy burden of rural death [2]. Of the 13 most frequent causes, nine categories had significantly more deaths in rural areas than expected. Only homicide was significantly higher in urban counties. By specific cause of death, the rural rate

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[1] In this paper, the terms "rural" and "nonmetropolitan" are used interchangeably as well as the terms "urban" and "metropolitan." In most cases, the U.S. Census definitions of "nonmetropolitan" and "metropolitan" apply.

in Georgia for stroke was 56 percent higher than the urban rate, for heart disease 39 percent higher, for urinary-related diseases 53 percent, for motor vehicle accidents 83 percent higher, and for respiratory-related diseases 26 percent higher than the urban rates. Most of these differences persisted when age-race adjustments were made [2]. Significantly higher rural death rates have been confirmed in a more recent study of rural and urban county death rates in Georgia [3].

Nationally, there has been a recognition that rural populations are vulnerable to a high incidence of modern chronic diseases because they are poorer, less educated, and older. Recent studies have reported higher infant and maternal mortality rates in rural areas [4][6] and some have reported higher crude (from all causes) death rates [6][8]. Rough calculations of vital statistics data reveal that the crude death rate in nonmetropolitan America is 13 percent higher than the metropolitan rate [9]. By cause of death in rural areas, stroke deaths are 31 percent higher, arteriosclerosis deaths are 34 percent higher, and motor vehicle accident deaths are 68 percent higher than metropolitan rates. One rural population segment, the elderly, had death rates considerably higher than their urban counterparts. For example, the 85 years and older group had a rural death rate 38 percent higher than the corresponding urban rate [10].

The phenomenon of a higher rural death rate pattern is a relatively recent one. Urbanization had long been recognized as being associated with higher death rates while rural living was regarded by many as part of a healthy lifestyle. This characterization of cities as unhealthy places probably came about in the early days of modern public health care when inhabitants of urban areas were particularly vulnerable to the great epidemic diseases which were then the leading causes of death [11]. Historically, higher urban death rates have been reported for all causes [12][13] as well as for chronic diseases such as coronary heart disease [13][15] and cancer [16][20]. In Georgia, the recently reported higher rural death rate is also a dramatic departure from historical trends [21]. That the relationship between rural and urban mortality has completely reversed in only 20 or so years is astounding.

HIGH RURAL MORBIDITY

Rural Americans also suffer from a greater burden of morbidity than the urban population. Chronic conditions are much more prevalent among rural residents [7]. Cerebrovascular disease, emphysema, pleurisy, arthritis, rheumatism, and hypertensive heart disease all afflict rural residents to a greater extent than urban residents. More than 50 percent of the new tuberculosis cases are in nonmetro areas [7]. The incidence rate of injuries in the predominant rural occupations of agriculture, forestry, and fishing is more than double the national rate for all industries [22].

Studies of the health status of the rural elderly also reveal a pattern of high morbidity. An analysis of 1978 Health Interview Survey data [23] and an earlier study of low-income elderly in the United States [24] reveal a lower rural health status. According to a more recent survey taken by the National Center for Health Statistics (1982 National Health Survey) [25], the rural elderly are more prone to chronic health conditions that limit activity, requiring more hospital care than the urban elderly. Another study reported that rural older people are twice as likely as those in urban areas to be in lower health status categories [26].

THE PEOPLE OF RURAL AMERICA

The health status of a population is very much related to its demographic characteristics. The rural demography suggests a population with many health problems. Such factors in rural America as a high percentage of elderly, a high median age and a high poverty rate exert a negative pressure on health status.

In 1982, rural America was older with relatively more elderly people than urban America [27]. The nonmetro areas had 11.4 percent of its residents 65 years and older compared to only 9.2 for urban America. The median age for metro America was 30.5 years versus 30.9 years for nonmetro.

Rural Americans are poorer economically than urban Americans. In 1982, the percentage of the nonmetro population in poverty was 17.8 percent versus 13.7 percent for metro [27]. In the same year, 18 percent of the nonmetro elderly were below the poverty level as compared to 12.6 percent of the metro elderly.

SHORTAGE OF HEALTH PROFESSIONALS

In rural America, there is a critical shortage of health care professionals. Although their numbers may have grown somewhat in recent years, there are simply not enough available physicians, nurses, and other health professionals. The shortages of health professionals and services coupled with the rural population's low health status create a distressing paradox.

The rural health manpower shortage, then, is considered a problem of great magnitude by some but, unfortunately, one of the little consequence by others. Arguments that the health care system has little effect on the health status of a population seem to weaken the case for the need for more rural health manpower. It is reasonable to envision an urban area saturated with health professionals which exhibits no substantive change in health status when a physician or other health professional is added to the labor pool. However, in rural shortage areas, the result is quite different. The addition of a physician or a nurse practitioner to a remote area whose population has no or few health services, could have a substantial positive effect on the population's health. As a result, the issue of health care provider shortages in rural America takes on much more significance than simply inconvenience. The health of the people is at stake. This concern should be kept in mind when considering the following information on health manpower distribution.

The vast majority of the literature on the geographic distribution of health manpower deals with physicians. One recent study revealed that the ratio of physicians-to-population in metro areas is more than double that of nonmetro areas [28]. In metropolitan counties, there were more than five times the rate of hospital-based physicians and almost twice the rate of office-based physicians than in nonmetro counties. The gap between the number of physicians per population in nonmetro and metro areas actually widened during the 1970's showing a disturbing trend.

Geographic maldistribution is a phenomenon not limited to physicians. There are approximately 60 percent more dentists and registered nurses in metro than nonmetro areas and 250 percent more podiatrists [29]. Allied health professionals are also available in much smaller numbers in rural areas. Speech-language pathologists, respiratory therapists, physical therapists, dental hygienists, occupational therapists, and many others are much less available in rural America [29].

A recent study in the State of Georgia illustrates the large differences in the number of health professionals available in urban and rural areas [30]. Metro Georgia had six times the ratio of occupational therapists-to-population, four times the ratio of psychologists and speech pathologists, and more than three times the ratio of opticians, physical therapists, and podiatrists than did nonmetro Georgia. Of the 13 professions studied, only optometrists had a higher nonmetro ratio (although a very small differential).

In recent years, some have referred to the geographic distribution of health manpower as a process of "diffusion." The term was originally used in this sense to describe the movement of primary care physicians [31]. Caution should be exercised in its use since there is some contradiction in this application of the term. In physio-chemical "diffusion," molecules move to areas of lesser concentration (i.e., toward equal distribution). Although progress has been made in the "diffusion" of primary care physicians, very few other health professions have redistributed toward equal distribution. Unfortunately, the reverse may be true as noted earlier by the widening gap between the number of metro and nonmetro physicians per population [28].

As we have seen the rural population is poorer and older and experiences higher mortality and morbidity rates than urban inhabitants—a situation suggesting the need for considerably more health care services. Yet, in reality, it appears that the reverse is true because urban America has the whale's share of the health professionals. The rural health manpower shortage compounds an already bad situation.

IMPACT ON RURAL AMERICA

The outlook for the proper growth and development of rural America depends on a number of factors but perhaps the most important is the "human" or "people resource." Without a healthy population capable of providing the brain power and muscle power needed, any system would flounder. Certainly this is true in rural America which has more than its share of health and disability problems. A healthy, vibrant population is needed if rural America is to ever reach its economic and production potential.

THE FUTURE

Rural America has a special challenge for the future. Traditional methods have not solved what is perhaps the greatest health care problem facing the rural population of this country—the geographic maldistribution of health professionals. Rural areas suffer from critical shortages of professionals in many health fields. The health status of rural people is falling further and further behind the urban population. Educational institutions and the Federal and State Governments and their agencies can do much to alleviate these complex rural health problems. The following recommendations deal with these problems and are directed at government as well as college and universities throughout this country.

1. Continue Federal rural health care delivery programs, at least in the short run

The National Health Service Corps and Federal health care programs such as the Rural Health Initiative should be continued. Although these programs unfortunately are only short-term solutions in most cases, there is still a great need in many rural areas which would otherwise go unmet.

2. Continue and expand financial support for rural-targeted health professional education programs

There will always be geographic areas where Federal health care is needed but in most situations, there is a better and a cheaper way to offer accessible health care. The strategy is to develop rural-targeted health manpower education programs whose graduates will be more likely to choose a rural practice setting and more likely to stay there.

Perhaps the most effective way to deal with the problem of rural manpower shortages is through rural-oriented education programs. Unfortunately, the vast majority of our existing health professions education programs have a definite urban bias, perhaps a natural consequence of the fact that most programs are located in populated areas. Thus, the base of operation and practice has a predominately urban orientation [32]. The students live, learn, and work in an urban environment. The educational program is based on the metropolitan model of high volume care with very sophisticated support facilities, personnel, and equipment. Consultation is readily available from all types of specialists and from colleagues in a number of fields. The most recent literature and means to access it are generally available. Faculty in such programs instill in the students, perhaps not always by design, a sense that working in the urban medical setting is the highest calling while the rural hospital or community will appeal to the less able. The concept of quality of care begins to become enmeshed within the fabric of the urban institution; the student learns to equate quality of care with degree of urbanization of the particular health care situation.

High quality care can be found in the small rural hospital or other rural setting just as it can be found in the urban tertiary center. The "ruralness" of the setting in itself has no direct effect on the quality of care [33]. Unfortunately, the mainstream of our health professional schools have a tradition which, perhaps subliminally, encourages students to reject the rural and places a premium on the urban, tertiary model.

These rural-targeted programs should include the following four strategies:

A. Recruit rural-reared students. Many studies of choice of practice settings of physicians and other health professionals indicate that individuals raised in rural areas favor rural practice sites. For example, Heald *et al.* [34] found that rural-reared physicians are three times more likely to practice in a rural area than physicians raised in an urban area. Philips *et al.* [35] found that 85 percent of the allied health graduates in the south Texas region returned to work in the area of previous residence. It has been demonstrated repeatedly that health professionals who grew up in small towns are more likely to practice in small towns [36][40].

B. Train students in the rural setting. The location of the educational program appears to be a major factor in the student's selection of a practice site. For example, research on physician location [37] suggests that the location of residency training is associated with practice site selection (even more so than medical school location). Similarly, studies show that students who graduate from urban-based programs tend to remain in the metropolitan area [32]. In fact, graduates from any program tend to live and work reasonably close to their educational program [41]. Because most health professions education programs are located in urban settings, graduates have tended to stay in these urban locations.

C. Include instruction on the rural setting and rural practice. For programs targeted to rural areas, preparing the student for the rural experience should be a major objective of the curriculum.

D. Assist graduates in finding rural practices. The educational program staff can play a positive role by helping to match the class of graduates with the available jobs.

3. Expand support for research relating to the special problems of the rural setting

A much stronger research effort is recommended in such key areas as:

A. Cerebrovascular disease. Strokes kill rural residents at a rate 31 percent higher than the urban rate [9]. In Georgia it is 56 percent higher [2]. Learning more about why this disease afflicts rural people to such a degree, including the associated environmental factors, is especially important for this population.

B. Pattern of rural mortality. Rural Americans have a serious problem with high mortality rates. Why are certain groups affected? Why do rural patterns of mortality in this country tend to be different than urban? What factors contribute to these differences? Answers to these questions will help in understanding the factors involved in the disease process, leading perhaps to preventive measures and ultimately to a healthier rural population.

C. Rural health systems research. Studies of the unique problems of providing health care in the rural environment could yield valuable information relating to quality, accessibility, availability, cost, acceptability, and continuity and mix of rural health care.

D. Rural accidents and disability. Two rural occupations, farming and mining, have the highest on-the-job death rates (52 and 50 per 100,000 population) of all occupations [22]. Yet, rural accidental deaths and disability are major problems which receive little recognition and even less serious attention.

4. Establish a focus for rural health within the Federal government

Currently, many rural health issues fall through the cracks of the Federal Government. The Department of Health and Human Services is concerned about "health," the Department of Agriculture deals with the "rural," but there is no agency or division of the Federal Government focusing on rural health. As a result, rural health problems worsen with no national rural health strategy to deal with them. The need for a distinct rural health unit in the government is clear.

5. Continue and expand the emphasis on primary care

In this day of limited resources, we must begin to emphasize basic primary/preventive care and get away from our fascination with high cost, low impact procedures. Compare, for example, the cost/benefit of heart transplantation with simple prenatal care. For the cost of a typical heart transplant, and first year costs of $94,000 [42], almost 171 pregnant women in Georgia could receive Medicaid prenatal physician care and delivery services. The benefits in giving just one mother prenatal care and increasing the likelihood of a healthy baby seem to far outweigh the heart transplant. A sick or mentally deficient baby can cost society a great deal during its lifetime.

Low cost, accessible primary care can have a dramatic effect in the rural setting, unlike that of high cost, high tech care. In so many rural areas, the population does not even have access to that basic care. This makes tertiary procedures such as organ transplantation a luxury which has limited benefit and yet competes for the dwindling resources available for health care.

SUMMARY

In summary, rural America has a "health disadvantaged" population. There are high mortality rates from a number of causes including strokes, arteriosclerosis, flu and pneumonia, and accidents. The rural population is older and poorer, which aggravates the situation measurably. There are severe maldistribution problems in practically all health professions, resulting in massive geographic accessibility barriers throughout rural America. A population with poor health and yet shortages in all types of health professions is the worst possible situation.

The effect of these health problems on the future of rural America is significant. The recommendations which are made in this chapter are designed to focus attention on the problems, increase rural health manpower, expand research and improve rural health, and encourage an emphasis on primary care, which is in short supply and yet most needed in rural America.

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ISSUES IN RURAL HEALTH CARE

By Michael C. Hosokawa *

Interest in rural health has ebbed and flowed since 1909 when President Theodore Roosevelt's Commission on the Study of Country Life reported on the living conditions and poor health of people in isolated rural areas. The current State of affairs in farming has touched all parts of the Nation and again focused attention on rural issues including the health care.

A commentary on rural health cannot be limited to only health and medical care but must view rural life as a system. For example, the economic stresses currently existing in farming, wood products or mining affect businesses, schools, health care, and most other aspects of daily life in rural communities. In billiard fashion, changes in one part of rural life have the potential to impact on the entire rural environment.

Today, there are three major forces affecting rural health—economic forces, technology, and policy. These three forces are interrelated as they impact rural health.

ECONOMIC FORCES

The rural lifestyle of traditional values and labor intensive industry is changing. The need for increased productivity through automation and mechanization has changed rural industries such as farming, fishing, and lumbering to capital intensive, corporate enterprises. The migration from rural areas to the cities has reversed and increasing numbers of urbanites are moving to small towns adjacent to the cities.

Improved transportation and communication have made some rural areas attractive to businesses and small industries. Tourism, recreation, and retirement developments have turned some previously isolated areas into bustling communities.

These changes are not universal. Rural still means expanses of open land, miles between neighbors, and isolated communities. The rural economy is dependent upon the natural resources of the land and varies with the weather, the seasons, and world markets. Rural populations have lower incomes, higher mean age, and higher morbidity and mortality rates.

The "farm crisis" has received substantial and appropriate media attention; however, serious economic strains have also affected other rural industries such as lumbering, fishing, mining, and oil drilling. Economic problems are linked to increased health problems in the form of delayed medical care and an increased incidence of stress-related medical conditions. In the past, rural fami-

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lies either carried expensive individual health insurance policies, as opposed to urban/suburban dwellers who have employer-subsidized group insurance, or they were self-paying. Financial pressures have forced many rural families to abandon insurance. Health maintenance and elective diagnostic and treatment procedures are considered luxuries. In addition, even the insured are not seeking nonemergency medical care to avoid co-payments.

Problems of the rural economy affect not only individuals and families, but also the community businesses and institutions. Schools, public health agencies, public utilities, community government, social services, and community hospitals—tax supported services—are directly affected by economic changes. When economic troubles make it essential for health and social services to be responsive to individual and community needs, these services are least able to respond.

TECHNOLOGY

The impact of technology on health and medical care has changed the delivery of services. There are two significant effects of technology—to make the hospital the focus of medical care and to expand the service areas of hospitals. The focus of medical care has shifted from the physician's office to the hospital, particularly large medical centers. This is a *fait accompli* in urban areas and a growing force in rural areas.

The technology of medicine was once an X-ray machine, a small lab, and an electrocardiograph—affordable by private practitioners. Today's technology is found in large multispecialty clinics and hospitals where high utilization by insured patients makes these high tech devices affordable for providers and patients.

This technology is beyond the financial and geographic reach of many rural practitioners. Small rural hospitals cannot justify purchasing devices which would be underutilized.

As the standards for quality medical care are changing to include more technology, rural physicians are affected in a number of ways. To practice up-to-date medicine, they must have the technology in the hospitals where they practice. Continuing medical education must be available to keep physicians current in the use of the technology.

Malpractice decisions based on the accepted standards for medical care will make it mandatory that physicians use specific kinds of technology in diagnosis and treatment. Thus, the technology must be accessible to rural physicians unless it is acknowledged that the acceptable standards for medical care in rural areas are different from the metropolitan standards.

To generate the capital needed to purchase and maintain high technology, metropolitan hospitals have expanded their service areas in competition for patients with other hospitals. Metropolitan hospitals reach into rural areas attracting patients away from local hospitals by offering high tech care. As occupancy rates in rural hospitals decline, communities must underwrite the costs of keeping the hospital open.

A failing hospital triggers a series of events beginning with physicians unable to practice a desirable level of medicine. As established physicians leave, new physicians cannot be attracted to these communities. New businesses and industries seeking quality schools, community services, and health care for their workers view doctor-less and hospital-less communities as undesirable locations.

Many rural patients travel long distances to metropolitan areas for the benefits of a hospital's advanced technology. They must leave the support of family and friends and bear the added expense of travel. The patient will likely pay for additional tests and/or treatments, many duplicating previous services obtained locally but costing much more in the metropolitan setting.

The role of surviving small, rural hospitals will change from general hospital to providing intermediate care—stabilizing the seriously injured or ill before transport, caring for patients who do not need the sophisticated services of the large hospital and serving as an intermediate care facility for patients returning from the metropolitan hospitals.

Offering intermediate care will not maintain the hospital. Communities will have no choice but to sell their hospitals if they can find a buyer. Some rural hospitals will become part of a network of satellite facilities attached to a metropolitan medical center.

Rural communities tenaciously cling to their hospitals, even when they become substandard. Many community hospitals, the pride of the rural areas, will be forced to close.

As rural community hospitals slowly disappear, so will the rural practitioner. Already many doctors are not members of the community in which they practice and it is increasingly common for a physician to be hired by a metropolitan hospital to staff a rural satellite clinic. In the same way family farms are being replaced by corporate farms, community hospitals and country doctors will be replaced by different provider systems. Technology and increased productivity have high costs in intangibles such as individual and community pride, lost folkways and, for many, a way of life.

POLICY

Policies at many levels affect health care. At the forefront of the alphabet soup of health care are the PROs (Professional Review Organizations) and the DRGs (Diagnostic Related Groups). These measures were designed to reduce hospital admissions and shorten stays, thus curtailing the exploding Medicare costs.

Although small rural hospitals made minimal contributions to the increasing Medicare costs when compared to the metropolitan giants, these rural hospitals suffer from the inequities in the policies. Medicare reimbursements to rural hospitals are 20 to even 50 percent less than urban hospitals for the same procedures. Designed to compensate for lower operating costs incurred by rural hospitals, the differential in reimbursement rates hits hardest at acute care which constitutes the bulk of cases treated in rural facilities. The specialized care performed in large hospitals has not been affected to the same degree.

The DRGs and PROs have generally reduced hospital admissions and inpatient days, but it appears the small hospitals have been more adversly affected. According to the American Hospital Association, hospitals with fewer than 50 beds, mostly rural facilities, had an all-time low average occupancy rate of 38.3 percent in 1984. In contrast, metropolitan hospitals had an occupancy rate of about 70 percent [1]. Large hospitals compensate for reduced admissions and inpatient days by offering services such as outpatient surgery, chemical dependency treatment and health promotion programs.

Medicare reimbursement and patient's preference for high tech care cannot be held solely responsible for the condition of rural hospitals. Some 20 percent of the rural population lives below the poverty level and the faltering rural economy will continue to drive this figure upward.

It must also be noted that some rural hospitals were in financial difficulty before changes in Medicare. In the 1950's and '60's, Hill-Burton funds encouraged hospital construction without planning for the best use of resources. Many of the struggling facilities were built when the ideal was for every community to have its own hospital. Regional needs were not adequately studied as part of the planning process.

Rural hospitals are an important segment of the health care system. They comprise about half of all U.S. hospitals. Rural hospitals offer fewer services, particularly fewer income-producing services. Without adequate financing and capital to maintain aging facilities or to expand services, the rural hospitals continue to suffer declining occupancy rates and face gradual obsolescence.

The impact of the reimbursement policies will have an even greater effect as the proportion or rural elderly increases. Nationally, about one-third of the rural population is 65 or older. As the depressed rural economy forces the young to the cities in search of employment, the elderly are left. In Missouri, some 60 percent of the patients in rural hospitals are on Medicare compared to 40 percent in the metropolitan areas.

One of the problems related to the current Medicare policies is the pressure to discharge patients in a proscribed number of days. In urban areas, patients can be placed in intermediate or extended care facilities, receive home health care, or return to the hospital for outpatient services. Metropolitan communities also have numerous psychological and social services available for patients. The rural physician may have access to a limited variety of local services or none at all. Providers are faced with the dilemma of keeping a Medicare patient in the hospital beyond the reimbursable period for the well-being of the patient or sending the patient to another community where appropriate services are available.

Other policy issues focus on facilities and manpower to deliver health care in rural areas. In the 1970's, categorical Federal programs encouraged the development of rural health care services and sought to increase the numbers of rural providers. At the same time, private foundations funded innovative rural health care delivery projects.

These programs have generally been effective, particularly where providers and services, initially funded externally, have become self-sustaining. It has also been demonstrated that some areas cannot support health care without being subsidized.

Despite the efforts of the public and private sectors, there is a shortage of physicians and other professionals in rural areas. Although, the Graduate Medical Education National Advisory Committee (GMENAC) [2] predicted excesses of 70,000 physicians by 1990 and 130,000 physicians by 2000, shortages in rural and inner city areas will continue into the next century.

It has been postulated that market pressures from the surplus of physicians will cause greater numbers of doctors to locate in underserved areas [3]. It is more likely the diffusion of physicians to rural areas will result from the increased emphasis placed on rural practice by some medical schools and the growth of some rural communities making these attractive practice settings.

Research by Langwell [4] showed a geographic diffusion of physicians to nonmetropolitan areas experiencing population growth. Langwell concluded that areas gaining physicians are perceived as attractive to physicians and nonphysicians.

Hobbs [5] studied physician distribution in Missouri from 1978 to 1982. During this period, the total number of nonfederally employed physicians (M.D. and D.O.) increased 17.4 percent. Missouri's population increased 2.5 percent during that time.

In 1982, 65.3 percent of Missouri's population lived in metropolitan counties and 83.3 percent of the State's doctors practiced in these counties. Small city counties had 14.2 percent of the population and 10.2 percent of the doctors. Rural counties included 20.5 percent of the people and only 6.5 percent of the physicians.

Rural counties gaining physicians fell into three categories: rapidly growing recreation and retirement areas, counties adjacent to cities, and counties with rural health initiative programs or satellite clinics associated with major hospitals or medical schools.

Policies related to medical school admissions, curricular design and loan programs appear to be the most promising strategies for increasing the number of rural physicians. A number of studies [6][7][8][9] have shown that medical students from rural backgrounds are likely to return to rural settings as professionals. These same studies also support curricular design—medical school courses providing the skills and experiences to stimulate interest in rural service—as a means of increasing the number of medical students selecting primary care and rural practice.

The rural physician must also have the skills to serve the health care needs of the people in a profitable and satisfying practice. Primary care physicians have the breadth of skills best suited to providing rural care. There are two important barriers to preparing physicians best suited for rural practice—training and expense.

The overt and covert trade unionism in medicine makes it difficult to train primary care generalists in a specialty-dominated environment. Most of today's medical students and residents are being trained in tertiary care medical centers with access to and reliance on sub-specialty consultation and referral. In this environment the "turf" of each specialty or subspecialty is vigorously proscribed making it difficult, if not impossible, for the primary care generalist to acquire the necessary skills for rural practice where physicians need a broader range of skills.

The expense of medical education is an interesting variable in physician specialty choices. The average annual debt of a graduating medical student was $26,500 in 1984.

Bazzoli [10] studied the effect of medical education indebtedness on specialty choice. Subsidized loans have lower interest rates but repayment begins during the residency influencing the choice of the shorter primary care residencies. On the other hand, loans allowing repayment to begin when the physician enters practice have high interest rates and tend to influence the choice of the more lucrative nonprimary care specialties. Interestingly, Bazzoli found debt to be less of a factor in specialty selection than marital status, spouse earnings, potential earnings in primary care relative to nonprimary care, and educational attainment of parents. These other factors also have financial implications and should be evaluated further.

Empirically, there has been a growing tendency for medical school applicants to come from higher socioeconomic backgrounds. If medical education becomes so expensive that medicine is a career choice open only to the wealthy or those willing to assume large debts, medical students will select specialties with greater income potential. The primary care specialties best suited for rural practice have the lowest income potential. Fewer medical students will enter the primary care specialties best suited for rural practice because they have the lowest income potential.

RECOMMENDATIONS

Both negative and positive forces have effected rural health. Some such as rural electrification and the highway system brought major improvements to life and health in general. Federal programs and foundations have sought to solve specific health problems. Although economic forces and population dynamics will continue to influence health, one can only conclude that without outside assistance, most underserved rural areas will continue to be underserved.

Based on the preceding discussion and cognizant of $200 billion deficits, the following recommendations are offered:

- The definition of "rural" as applied in Federal programs should be periodically evaluated since population dynamics and other forces change the health care needs rural areas.
- The availability of medical care in rural areas, particularly access to advanced technical diagnostic and treatment equipment, must be on a regional basis. Multistate planning areas such as Health and Human Services Regions may offer the most advantageous planning perspective for rural health resources.
- It must be acknowledged that certain underserved areas may never have an acceptable level of health services without the assistance of Federal programs. Continued funding of Rural Health Initiative and National Health Service Corps projects for the most underserved areas should continue.
- Federal policies designed to contain health care costs must be evaluated for their impact on SMSA and non-SMSA health care. The differences in reimbursement rates for rural and urban hospitals is an obvious issue for study. The pressure to discharge patients in a designated period of time has different

implications for rural and urban areas and is also an issue needing further evaluation.

- In the future, rural hospitals may serve as an effective conduit for a variety of health and social services linking metropolitan areas with rural communities. Transportation, psychological, and social services, public health programs and health promotion and disease prevention programs are available in urban settings and needed in rural communities. The local hospital may be the most effective link to providing these nonmedical services to rural areas.
- Medical schools and approved residency programs that have demonstrated success in preparing primary care physicians for rural service should be encouraged to continue these training programs. Manpower training grants for primary care specialties should require a program to have no less than 50 percent of its graduates in rural primary care to qualify for future funding.
- Scholarships and loan programs should be designed to favor applicants from rural backgrounds and institutions with a successful history of training physicians for rural practice.
- Although physicians have been the focus of most health manpower studies, other health professionals such as nurses, psychologists, social workers, and support personnel are needed in rural areas. Federal support should be provided to training programs with demonstrated success in training other professionals for rural service.

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INDIAN HEALTH CARE

By Richard Kozoll *

"Indian America" is rural. Although younger Indian adults are increasingly seeking employment in cities, the majority of approximately 1.5 million American Indian members of 487 federally recognized tribes in the United States live on or near reservations in 28 States. They are among the most impoverished of U.S. population groups and live in some of the most isolated and climatically harsh locations in the country.

American Indians suffer from a distinctly different pattern of morbidity and morality than most Americans. Statistics such as those below will serve to better characterize these differences.

- The birth rate of American Indians is approximately twice that of the overall U.S. population with 1.7 times the number of infants surviving at one month of life dying before their first birthdays.
- The age-adjusted death rate from accidents is approximately 2.5 times higher than the general U.S. population. This explains in part why 19 percent of Indians die before their twentieth birthdays as opposed to 5 percent of all Americans.
- Indians are far more likely than the overall U.S. population to be afflicted with alcoholism, chronic liver diseases and cirrhosis, obesity, gall bladder disease, diabetes, tuberculosis, pneumonia, meningitis, and influenza.
- Indians die from homicide and suicide at much higher rates than the general population.

Substantial progress, nevertheless, has been made in reducing many traditional causes of American Indian illness, injury and death. Progress is particularly encouraging for neonatal (under 1 month of age) mortality (down 68 percent since 1954 to 1956), tuberculosis incidence (down 95 percent since 1955), child death from gastroenteritis (down 90 percent since 1955), and death from pneumonia and influenza (down 77 percent since 1955).

Most areas of improvement relate to conditions responsive to medical care and public health services, an area of activity for which the United States Public Health Service through its Indian Health Service (IHS) has assumed primary responsibility since 1955. Although Federal responsibility for Indian health care stems from early treaty obligations, more recent direction can be traced to two pieces of legislation of the last decade. Public Law 93-638, the Indian Self Determination and Education Assistance Act, enacted in 1975, gives tribes and Alaska Native groups the option of managing and operating the health care services for their commu-

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nities. It also authorizes Indian Health Service assistance for any such group interested in developing its capability to eventually take advantage of this option.

Public Law 94-437, the Indian Health Care Improvement Act of 1976, with its 1980 amendment, Public Law 96-537, authorized a set of activities to elevate the health status of Indians and Alaska Natives to that of the general U.S. population. Additional appropriated resources were used to expand health services, build and renovate medical facilities, and increase construction of safe drinking water and sanitary disposal facilities. It also established programs to increase the number of Indian health professionals and improve access to health services for Indians living in urban areas.

Despite increasing reliance on third party payment for eligible recipients of IHS funded programs, Indian health programs have suffered budget cuts and consequently service reductions in recent years. They have, however, been exempted from reductions of over 1 percent in FY 86 and 2 percent in subsequent years through provisions of the recent Balanced Budget and Emergency Deficit Control Act of 1985. In response to these economic pressures, IHS funded programs have had to grapple with such issues as tighter service eligibility criteria (geographic and blood quantum), prioritization and curtailment of services not available through IHS programs and previously paid by contract funds, and developing fees for selected services previously provided at no direct charge.

Indian health facilities and programs suffer from the same poor economies of scale that apply in varying degree to all rural areas. They often have a high ratio of fixed staff and facility cost to total cost and therefore must constantly defend certain of their services as "cost-effective." They will suffer if compared in this regard to larger programs or facilities. They also frequently operate in areas without adequate transportation, social service, home health, public health, or school health services. Provision of certain of these services, crucial to the success of intervention with conventional medical care, adds additional operational expense and further confounds comparisons.

A particularly challenging problem is presented when a significant portion of the population on or near a rural IHS facility is not Indian or near a community health facility is Indian. Little provision in the past has been made for innovative IHS contract or integrated fee for service approaches. Consequently, one population may be left without reasonable access to services and the other with a lesser level of perhaps more expensive care. "Self determination" (638) programs have been more successful than directly operated IHS facilities in developing fee for service systems for non-Indians. Several non-IHS community hospitals or ambulatory programs are funded under contract to provide services to Indians on or near reservations. Their Indian patients, however, suffer from geographic eligibility criteria and denial of contract coverage for certain elective medical and dental services.

Further progress towards reducing Indian morbidity and mortality will require, for the most part, carefully conceived health promotion and disease prevention programs targetted at behaviorial risk factors such as diet, alcohol use, and stress management. Approaches developed for the general U.S. population are often inappropriate or unfeasible to reach rural Indian people. Promising approaches that have been developed are often not utilized because of lack of promotion/prevention resources or health professionals skilled in their use. Assistance from and collaboration with state and local health departments has been suggested as one way to address the resource side of this problem. More often than not, however, state and local health authorities negotiate "territory" with IHS programs and protect their resources for use with contiguous non-Indian populations.

Health professional manpower development has been a major IHS success in recent years. Certain categories of Indian professionals (nurses, physician assistants, dental assistants, health educators, health service administrators) have been trained and employed in Indian health programs in large numbers. The IHS has experienced more difficulty with training and retention of other professional categories such as physicians, dentists, psychologists, and dieticians.

An important feature of community outreach in most IHS or tribal health programs in recent years has been the community health representative (CHR). CHRs are Indian people selected by their own tribes and trained by the IHS to improve communications between their communities and health service providers as well as augment personal health care through instruction and home service. Almost 1,800 are currently employed, but their future is now uncertain in view of diagnosis and treatment priority for use of limited IHS funds. Use of CHRs by other health professionals has been less than optimal, reflecting, in part, the difficulty experienced by conventionally trained physicians, nurses and others in accepting such "developing country" approaches.

Many of the problems and challenges for Indian health services highlighted in this essay reflect the difficulty of and need for adaptation of categorical IHS programs to the current health care environment. Their identity cannot be lost in the current drive towards "corporatization" and third party control in health care. On the other hand, IHS or tribal administrations can no longer operate them in a vacuum. They will need to coordinate or even integrate planning and operation with other providers. Indian health services will need adequate Federal support, but also state and local resources and fee for service revenue. Several recommendations are specifically offered.

1. IHS health objectives should be identified, quantified and periodically assessed by geographic and tribal unit. They should reflect special problems of Indian people.

2. Efforts to limit access by geographic or blood quantum eligibility criteria should be balanced by efforts to integrate regional care for the ineligible through contract or fee for service mechanisms.

3. The intent of the Indian Self-Determination and Education Assistance Act in regard to health services should be strengthened through IHS action. The 638 contract provides an important mechanism for local community activation and flexability in designing an appropriate local health care system.

4. The Indian Health Care Improvement Act should be reauthorized and its additional resources made available at current levels. This legislation has effectively addressed many problems of access,

acceptability and promotion/prevention orientation of Indian health services.

5. Models for integration of services for mixed Indian and non-Indian populations near IHS supported facilities or programs should be developed and supported by the IHS. These are particularly important in remote rural areas suffering from poor health service economies of scale.

6. Effective health promotion/disease prevention activities must be far more heavily supported by the IHS through both research and demonstration programs as well as increased funding allocation.

7. Models for coordination or integration of service with state and local health departments should be developed and promoted by tribes, the IHS, and state and local health authorities.

8. Indian health professionals training and career development should continue to receive high priority. Reasons for slow progress toward a better supply of certain professional categories such as physicians and dentists should be identified and addressed. Indian health professional development promises both greater continuity and appropriateness of health services.

9. The strengths and weaknesses of the community health representative program should be carefully assessed. The CHR program should be further improved and continued at current levels by the IHS. This approach to community outreach and health status improvement has been demonstrated effective in many "developing countries" and holds promise for Indian communities.

VI. OPPORTUNITY

UNIQUE RURAL ECONOMIC DEVELOPMENT EFFORTS IN VIRGINIA

By Hon. Charles S. Robb [*]

Citizens, members of Virginia's academic community, and local and State policymakers have recognized the need for innovative and long-term opportunities that will create an optimum environment for private industry. Virginia has made great strides in attracting a mix of businesses, improving the capacity building needs of local government, and developing supportive infrastructures for these businesses and for citizens in general.

While these economic and social advances have been occurring, many Virginians in the private and public sectors believed that more effective State leadership was needed to improve the economic development of our rural areas. The recent flow of population to many rural communities has altered the composition of employment demands and increased the demand for limited public services. Further, the instability of farm and other natural resource based incomes has increased the need for additional economic development efforts in many of our rural communities.

By most measures Virginia is a rural State. About 1.7 million people, or nearly one-third of the population, live in rural areas or small towns and cities. Approximately 90 percent of the State's land base is in renewable resources and owned by the private sector. Of the 25 million acres of land in Virginia, 9.8 million acres are owned by our farmers and 12.5 million acres are in commercial forest production. About 20 percent of our State's total economic activity is related in some way to farming, forestry, fishing, or agribusiness in general. Mining and tourism are other important industries in rural Virginia.

Virginia's agriculture, while experiencing the same crisis that plagues the industry in other States, is in better shape than most. Land prices neither escalated as much during the seventies and early eighties, nor did they decline as much recently. Furthermore, the existence of other rural industries provides off-farm employment for many farm families during these difficult times.

Virginia's agricultural industry has resisted, somewhat, the trend toward fewer, larger farms. This is an advantage for rural communities since population levels are more stable, but it is a challenge to policymakers and those concerned with local economic viability.

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[*] Mr. Robb provided this chapter while serving as Governor of the Commonwealth of Virginia.

Virginia has a good record in providing economic opportunity and quality of life, but viable rural communities require constant effort. In this time of depressed agricultural conditions, rapid technological change, competitive pressures from offshore producers, and generally uncertain economic conditions, rural development policy must anticipate emerging problems and needs.

Before discussing some of Virginia's unique programs, it would be appropriate to emphasize some basic tenets of our rural development concerns and efforts. They are:

1. The government of Virginia must work to create an optimum environment for private industry. Ways to achieve this goal include: continuation of strong support for education, training, and research as a means of enhancing productivity adaptiveness and competitiveness; creation of supportive measures to enhance the success rate and profitability of private industry; and maintenance of an equitable tax structure for businesses and citizens.
2. Strong efforts must be made to improve the balance of growth between the rural and urban areas of the Commonwealth.
3. Rural areas must have healthy farming, forestry, fishing, and mining industries.
4. Efforts must be made to maintain the health of the farming industry by increasing the growth of compatible industries.
5. Recognition must be made of the fact that rural areas require unique institutions such as outreach programs similar to cooperative agricultural extension. These unique institutions would help rural areas overcome the pull of urban areas.
6. Local governments have a vital role to play in their own economic development. As the level of government closest to the citizens, localities are best placed to decide the compatibility of development with local resources, culture, and the economic base.

The Virginia Department of Economic Development (DED) plays an important role in our State's total economic developments. Two recent initiatives of the DED include the *Community Certification Program,* which encourages communities to prepare for business development, and the assistance offered to small businesses through the office of *Small Business and Financial Services.*

The Virginia Community Certification Program is designed to encourage communities to seriously evaluate their potential for attracting business investment. Well defined guidelines have been developed to assist communities striving to achieve the designation of a Certified Community. Certification of a community indicates that it is approved by the state as ready for economic development.

Improved job opportunities and capital investments in the Commonwealth are primary goals of Virginia's citizens. The Virginia Community Certification Program was developed to assist communities across the Commonwealth in achieving these goals by becoming more attractive as potential locations of industry and related economic development.

The business of attracting jobs and investment is extremely competitive. Therefore, any community desiring to enhance and expand its economic base must improve its competitive position. This program provides a framework within which Virginia communities can determine their degree of readiness to actively engage in economic development.

The design of this program includes seven major components: 1) the local economic development organization; 2) community information requirements; 3) quality of life requirements; 4) the local contact team; 5) financial capability; 6) local existing industry program; and 7) sites and building requirements. Each of these major components has several standards to be met. The program requirements each individual community must satisfy to attain certification are not designed to be easy. Consequently, attainment of certification status will require dedicated community effort. This is not competition among communities, but rather a standard to be met.

Within a goal of improving the economy of Virginia's communities through increased capital investments and more employment opportunities, the Virginia Community Certification Program has these objectives:

1. To provide a program of work by which a community can become better prepared for industrial and economic development.
2. To improve the preparedness of the community leadership and to enhance their ability to successfully promote economic development in their communities.
3. To give the Virginia Department of Economic Development a better inventory of communities to bring to the attention of industrial prospects seeking new plant locations.
4. To provide public recognition to those communities making the effort to become better prepared for economic development.
5. To enhance the community spirit within Virginia through the involvement by community residents in the several standards of the certification program.
6. To provide benchmarks against which a community can measure its preparedness and readiness for economic development.

The community earning the designation as a "certified" community will be assigned a priority status by the Department of Economic Development when making community recommendations in connection with its marketing efforts. In addition, other forms of incentives and recognition will be given as follows:

1. The community will receive a certification award to be presented by the Governor at a public presentation.
2. The community will be publicly recognized as a prepared community ready for economic investment and the Department will encourage widespread news attention.
3. The community will receive special attention in certain aspects of the Department's advertising program.
4. Attractive highway signs attesting to the community's certification will be presented.
5. Bonus points are awarded to communities which apply to the State Reserve for additional industrial revenue bond allocation.

The Virginia Department of Economic Development, through its Office of Community and Business Services, will be the prime sponsor of the Virginia Community Certification Program and will provide the guidance, organization, and support services to ensure the success of the program.

Recognizing the importance of small business to Virginia, and particularly to rural areas, the Office of Small Business and Financial Services was recently established with the DED. This office has a One-Stop-Shop and Clearinghouse for prospective and established small business owners. The One-Stop-Shop provides entrepreneurs with information on business planning and business plan development, management assistance, procurement opportunities, as well as information on state laws and regulations affecting small businesses.

This office is also charged with overseeing the operation of the *Virginia Small Business Financing Authority*. The Virginia Small Business Financing Authority Act is considered one of the most comprehensive pieces of legislation to support small business development in the nation. It provides the following three programs:

- Tax-exempt Industrial Development Bonds (IDB's) will be issued to eligible small businesses for projects allowable under federal IDB laws and regulations. This financing mechanism is for fixed assets and capital equipment.
- Umbrella IDB's will be issued, providing small firms the opportunity to access the public markets' attractive rates and terms for tax-exempt bonds, by pooling together, in an umbrella bond, IDB's allocated by the Authority for projects under $1 million.
- A Working Capital Loan Guaranty Program has been established which is designed to reduce the risk to lenders in making such loans to small firms and, thereby, increase the working capital financing available.

The basic criteria which a small business in Virginia must meet in order to be eligible for financing assistance from the Authority are these: 1) have 250 or fewer employees, or 2) have less than $10,000,000 in annual gross revenues over each of the last three years, or 3) have less than $2,000,000 in net worth.

During 1985, the Virginia Small Business Financing Authority completed its development of the Umbrella IDB Financing Program and initiated its Working Capital Loan Guaranty Program.

In 1985, the Virginia Small Business Financing Authority issued 56 million dollars in IDB's. A total of 82 small businesses utilized this financing vehicle and it is projected that these businesses have created 1,380 new jobs in Virginia.

There are more than 80,000 small businesses in the Commonwealth. They supply the majority of the new jobs and employ nearly half of the state's work force. Their innovative capacity is evidenced by the fact that Virginia ranked behind only Massachusetts and California in the number of Small Business Innovation Research grants awarded by the federal government.

Policymakers in Virginia are well aware that some rural areas are generally disadvantaged by their limited access to transportation, information, institutions of higher education, and financial institutions. In an attempt to overcome these disadvantages, Virginia Tech has initiated several innovative programs.

Two new extension programs include the *Economic Development Institute* and the *Small Business Institute*. The Economic Development Institute is an extension program for local governments which enhances their efforts and effectiveness in creating local development. The Small Business Institute is a business extension activity which makes various types of management skills and expertise available to smaller businesses who might otherwise not have the access.

Virginia Tech is currently developing a corporate research park near its campus. Corporations will be encouraged to locate research and development activities in the Park and this will enhance the research at Virginia Tech, attract industry to Virginia and promote the development of technologies appropriate to the area.

The Park will include an incubation facility. The facility has a three-fold mission. It could house corporate scientists from a corporation that could not justify building its own research building. It could house university scientists for corporate research projects. Small business entrepreneurs could be provided a place to "hatch" new ideas through the design, development, and prototype test phases. The entrepreneur would be expected to be in and out of the facility within three years. The enterprises that develop a process or product that is commercially viable will leave the research park and, hopefully, go to an industrial park or similar site in Virginia.

In 1984 Virginia began an experiment in a unique partnership among the public sector, private sector, and the academic community. The Rural Virginia Development Foundation (RVDF) allows these various groups to focus attention and resources on business development in rural Virginia.

The intent of RVDF will be to strengthen rural communities by assisting in communication between farm and nonfarm sectors. The goal of RVDF is to assist in the development of small businesses that are compatible with a given locality's needs, desires and resources. The Rural Virginia Development Foundation will aid emerging rural enterprises and enhance the growth of compatible industries (particularly value-added industries).

An underlying premise of the Foundation is that many entrepreneurs with sound business ideas lack adequate start-up funds. The architects of the Foundation understood that the access to capital is a vital requisite of a thriving, free-enterprise economy. By providing equity capital to locally owned small businesses, the RVDF will enhance the rate of business starts and success rate as well as the profitability of rural businesses. Anticipated benefits include increased demands for farm and forestry products, increased employment, increased incomes for farm families, and an expanded tax base for local jurisdictions.

The legislative subcommittee of the Virginia General Assembly responsible for drafting the bill which led to the foundation of the RVDF outlined three very specific objectives for the Foundation. The objectives are as follows:

a. To provide access to sufficient operating and debt capital for new and expanding small businesses in rural Virginia, and to target investments towards agriculture and natural resource related businesses.

b. To encourage the development of a human capital program that ensures the delivery of targeted and coordinated leadership and manpower training activities. These programs should be designed to meet the emerging needs of the rural businesses, especially enterprises developed by programs initiated under the first objective.

c. To identify emerging needs and technological changes to generate products and services which can be produced by rural enterprises in Virginia.

To accomplish its goal and objectives, the RVDF has developed a comprehensive package of services to offer to new and expanding businesses in rural areas. The extraordinary success of equity (venture) capital firms in urban areas, with their coordinated package of financing, management assistance, and marketing expertise, suggests that capital and entrepreneurship may be the most limited factors. The RVDF will endeavor to provide equity capital and skills training for entrepreneurs.

To provide the equity capital funds, the RVDF has the legislative authority to coordinate the formation of a for-profit Virginia Economic Development Corporation (VEDCORPS). The VEDCORPS will be the mechanism which attracts funds from the private and public sectors and reinvests these funds in rural businesses. When a VEDCORP invests in a new business, it will be entitled to a proportional share of the business profits. The overriding philosophy of the VEDCORPS will be to encourage a given business to become privately owned as soon as possible. When a VEDCORP sells its original equity holdings back to the entrepreneur, the value of the original equity plus the earnings will be invested in other rural businesses.

The RVDF will encourage and coordinate manpower training programs in rural areas to ensure that there are trained workers available for the businesses the Foundation finances. Additionally, the Foundation will monitor technological changes that will generate products or services which may be produced by rural enterprises in Virginia.

Finally, the basic outline of the Foundation calls for it to become self-sustaining as returns from "profitable" ventures are reinvested in new enterprises. In this manner, returns from the initial investments will allow the Foundation to increase its capital base and support an increasing number of businesses.

It should be noted that, due to a variety of factors, the RVDF has not met with the anticipated success in its first year and a half of existence. The RVDF will be requesting a million dollars in seed money from the 1986 session of the General Assembly. This seed money will serve to encourage private foundations to support the RVDF.

In summary, Virginia's rural economic development efforts have stressed strengthening ties among State and local governments, the academic community, businesses, and individuals. With all of Virginia's economic development programs and efforts being effectively coordinated, we can preserve our valuable farmland while providing more nonfarm jobs and incomes and increasing the quality of life for all Virginians.

THE HUMAN SYSTEMS APPROACH TO ECONOMIC DEVELOPMENT

By Hon. Bob Bergland*

The rural electric cooperative program has just celebrated its 50th Anniversary . . . 50 years of successfully meeting the challenges of providing sound, reliable, and affordable electric services to millions of people living in Rural America, an effort fueled by the basic principle of cooperation.

Cooperators have always been good citizens and leaders in the communities they serve. Now the combination of the farm crisis and the web of farm, rural, and national macro economic systems has created a situation which challenges the rural electric cooperatives and its national association, the National Rural Electric Cooperative Association (NRECA), to assume leadership roles in providing turnaround strategies for rural America.

The problems in rural America can be looked at as a systems problem with a human side. There is a human side to every problem and to every solution. Systems design strategies can help in solving these problems.

Turning around the economies of rural America requires the same level of team work and possibly even greater dedication and commitment. In contrast to the top-down commitment and funding from Federal sources, however, our rural concerns must be attacked from the grassroots level. And that is where rural electric systems will play a crucial role.

Those who have been involved with or observed the development of rural electrification know that through most of this half-century of progress, the delivery of electric energy has only been part of the service co-op provide to rural America.

Most co-ops have also served as a significant and effective force for the broad-based development of rural America—a concept of development that includes not only energy services but also in meeting many of the other needs of rural communities, be they economic, social, or cultural.

Co-ops in many parts of the Nation have been particularly active in the economic development of the areas they serve. In addition to their obvious role in making rural America more productive and prosperous through adequate, reliable, and affordable electric energy, the Nation's rural electric systems have played a role that is not so obvious: By working to improve the quality of life in rural America in many ways, rural electric cooperatives not only have made these areas more attractive to the entrepreneurs, professionals and skilled workers needed for business and industrial development but also have helped to encourage the youth of rural America—highly motivated, hard working young people—to remain there, rather than migrate to the suburbs and cities in search of opportunity.

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* Formerly Secretary of Agriculture, Mr. Bergland is the Executive Vice President of the National Rural Electric Cooperative Association, located in Washington, D.C.

Even beyond this, many rural electric systems have assumed very active roles of leadership in programs specifically designed to increase job opportunities and encourage economic development. Co-ops, their directors, managers, and employees frequently have been the catalysts for development of community wide efforts to attract business and industry to rural America.

With encouragement from NRECA, and with the support and assistance of a variety of federal programs administered through the Farmers Home Administration and other arms of the U.S. Department of Agriculture, rural electric systems have helped to create tens of thousands of jobs in the areas they serve, and to improve other aspects of the rural infrastructure in such areas as water and sanitation, communications, transportation, health care, and other services.

REA itself played a key role in many of the most successful efforts to broaden the economic base in areas served by rural electric systems. Under Section V of the Rural Electrification Act, REA could—and for many years did—make loans to co-ops which were, in turn, reloaned to individuals and businesses for the "acquisition and installation of electrical and plumbing appliances and equipment." While the initial intent of these loans was to help build demand for power in areas served by REA borrowers, an equally important effect was to stimulate the growth of new industries and businesses in rural America. Rural electric systems receiving these loans made them available for industrial as well as agricultural enterprises.

Times have changed, however.

The increasing challenge of meeting their primary responsibilities as electric utilities has taken its toll in the ability of rural electric systems to devote time, effort, and resources to these more broad scope efforts to serve their members and communities.

Massive increases in basic energy costs since the early 1970's, combined with the added complexity of operating electric generation, transmission and distribution systems in the face of more stringent environmental standards and ever-higher regulatory expectations, have forced many rural electric systems to narrow their focus of effort more and more, to those matters that relate directly to their mission as electric utilities.

While the co-ops' commitment is no less strong to the concept and goal of rural development, many have felt—for the time being, at least—that these activities must take a back seat to issues with a more direct and short range impact on the cost and quality of service to their current consumer-members.

At the same time, the traditional driving force behind efforts to build and broaden the economic base of rural America—the Federal Government—has reduced its commitment to aggressive rural area development. The past five years in particular have brought with them very substantial cuts in spending, lending and service programs aimed at rural business and industrial development and at the enhancement of the infrastructure of rural America.

As with the rural electric systems, the Federal Government's retrenchment in rural development activities has been due in large measure to the forces at work in the economy as a whole. Faced with a $200-billion deficit in Federal spending, the focus of attention inevitably shifts to programs with more of a short-term payback than is anticipated from most rural development programs. Beyond this, it can be fairly stated that the present Administration has a much more Darwinian approach to issues such as rural development and is philosophically aligned with the idea that the forces of the marketplace alone should determine the relative fitness of areas—rural or otherwise—for economic development.

The net effect of these changes has been a significant loss of momentum in the nation's rural development effort.

NRECA believes the time has come to reverse these trends and get the Nation's rural economic development program moving again.

The farm crisis is having a clear spill over effect to nearly every other aspect of the rural economy. Merchants, banks, services of all types are effected. Bankruptcy and foreclosures have become a fact of life, not only on the farm but also in the businesses of Main Street in Small Town, America.

Agricultural systems affect rural systems which, in turn, affect metro systems which affect national and international systems. The economies of rural America and urban America are intertwined and interdependent. Dealing with the problem of farm prices is crucial—but it is only part of the problem. Bringing long term economic health and stability to our rural areas will require more; It will require a systems approach.

The systems approach to rural economic development deals with three key questions. First, where are we now? To determine where the community is, several studies have to be done of existing industries, community attitudes about industries, and regional resources. These studies key in on areas for economic activity and serve as the basis for determining the answer to the second question, where the community should be going. From the planning meetings with different people in the community, a business development plan is developed which deals with the final question, how do we get to where we want to be?

Most economic development programs deal with retention, expansion and attraction. Retention and expansion of existing industries is very productive. To do this, local development bodies must be open, objective and non-defensive in viewing their community. Self-analysis or community analysis sometimes requires painful admissions. But these lead to pragmatic, practical programs.

A business development plan typically details a blend of strategies for retaining and expanding existing businesses and for attracting new businesses. As with the implementation of any plan or system, there should be periodic review and revision based on current feedback and new information. A plan is a guide which should be responsive and flexible to community input. The success of any rural economic development plan is based on "course correcting" and "fine tuning."

In rural areas it is essential to focus on existing industries. The Tennessee Valley Authority has been very effective in using development strategies based on studying companies in its service areas. Fifty percent of all new jobs created in the Tennessee Valley region during the past 15 years have been the result of expansion of existing manufacturing firms. In addition, it must be recognized that not every rural economic development program will result in a "Saturn" plant and thousands of new jobs. David Birch of MIT found that 87 percent of the employment increase between 1969 and 1976 occurred in establishments with fewer than 100 employees and 66 percent in establishments with 20 or less. Focus on expansion and retention of existing businesses, supporting entrepreneurs.

To apply systems principles to rural economic development requires that the cardinal rule of systems design be employed. The principle is, if *users* of a system—people—are not consulted in the design stage, they are very inventive in making the system fail. This principle is often neglected in favor of developing a system quickly. The time saved is more than lost in lack of motivation when the system is launched.

To summarize, decentralize, break down local economic development problems into manageable components, and seek the input of as many people with diverse points of view as possible. There is a people side to every problem and every solution. Rural electrics can—and will—provide a link to the people. NRECA is committed to giving strong new priority to the role cooperatives can play in increasing the economic stability of rural America.

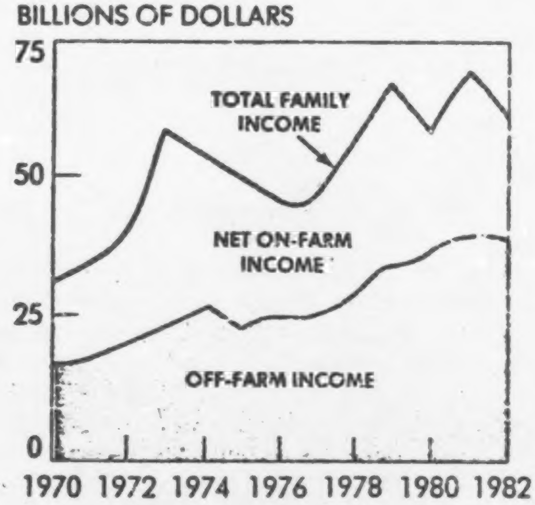
A healthy rural America is essential for the growth of the country. Richard J. Ferris, chairman of United Airlines, says that America's small towns "provide a sense of continuity with the past and suggest a more serene lifestyle, in contrast to today's hectic pace. . . . Towns provide a sense of belonging and self-sufficiency." Townspeople exhibit a fellowship and familiarity often lacking in big cities. Town life continues the tradition of shared means and values—often through volunteering community activities." A healthy rural America as an alternative to living and working in big cities is essential for a healthy, balanced American economy.

ECONOMIC GROWTH IN RURAL AMERICA

By Glen C. Pulver*

The current economic crisis in rural America has sharpened public awareness of the connection between farming and other rural business enterprises. The proportion of total farm family income earned from off-farm sources has increased in the United States from an average of about 40 percent in 1960 to over 72 percent in 1983 (see Figure 1). Off-farm income is not only larger than net farm income, but a more stable source of income over time. Off-farm income includes wages and salaries from off-farm employment, dividends interest, rent from nonfarm real estate, social security, and other pensions.

FIGURE 1. *Total U.S. farm family income, by on-farm and off-farm sources*



SOURCE: Adopted from *1984 Handbook of Agricultural Charts,* U.S. Department of Agriculture.

(From Findeis, 1985.)

Over 40 percent of the farmers in nonmetropolitan counties of the United States work off the farm over 100 days. In the more specialized agricultural counties of the United States, approximately 30 percent of the farmers do likewise (Petrulis, 1985). Off-farm employment is critical even to the labor intensive dairy farms in Wisconsin. In over 50 percent of the farm families, the operator or spouse work off the farm (Salant *et al.*, 1984). The reliance on off-farm income is particularly true for families grossing less than $40,000 from the farm (Table 1). In a high percentage of these cases, off-farm income actually subsidizes the farm operation.

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TABLE 1.—U.S. FARM OPERATOR INCOME FROM FARM AND OFF-FARM SOURCES.*

Farm size, by gross farm sales	Net on-farm income Gross off-farm income		
	1981	1982	1983
Average of all farms	$12,722 16,366	$9,307 16,421	$6,744 17,299
Less than $5,000	−562 20,177	−575 20,186	−687 21,094
$5,000 to $9,999	−547 19,073	−865 19,121	−812 20,047
$10,000 to $19,999	13 17,104	−833 17,182	−1,053 18,061
$20,000 to $39,999	1,805 12,766	164 12,874	303 13,547
$40,000 to $99,999	8,455 10,481	4,675 10,612	4,813 11,253
$100,000 to $199,999	26,998 10,855	17,887 11,102	14,048 11,793
$200,000 to $499,999	71,172 13,216	49,491 13,777	35,397 14,610
$500,000 and over	689,225 25,418	549,383 26,912	416,205 28,603

* Assumes one operator per farm.

SOURCE: Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1983. (From Finders, 1985.)

For years, young people who have grown up on the farm have sought off-farm employment as a way to earn a living. With the recent drastic decline in farm numbers the opportunities to farm have been more severely reduced. In addition, young people who are entering farming use off-farm employment as a means of capital accumulation. The transition of older farmers from farming to retirement has also been facilitated by the combination of off-farm employment and social security payments.

Because of the growing recognition of the importance of off-farm income to rural economic well-being, policymakers at the National, State, and local level with a historic interest in farm policy are focusing attention on more broadly defined rural economic development issues (Powers and Hobbs, 1985). The most immediate question of concern seems to be, "What can be done to increase income through the stimulation of nonfarm employment growth in rural areas?" The answer is, of course, directly influenced by the resources, market opportunities, and other locational characteristics of the particular place, State, or region as well as the general national economic climate. In order to maximize their development prospects, policy makers must choose the appropriate combination of specific strategies from a wide spectrum of available options.

The Economic Restructuring of Rural America

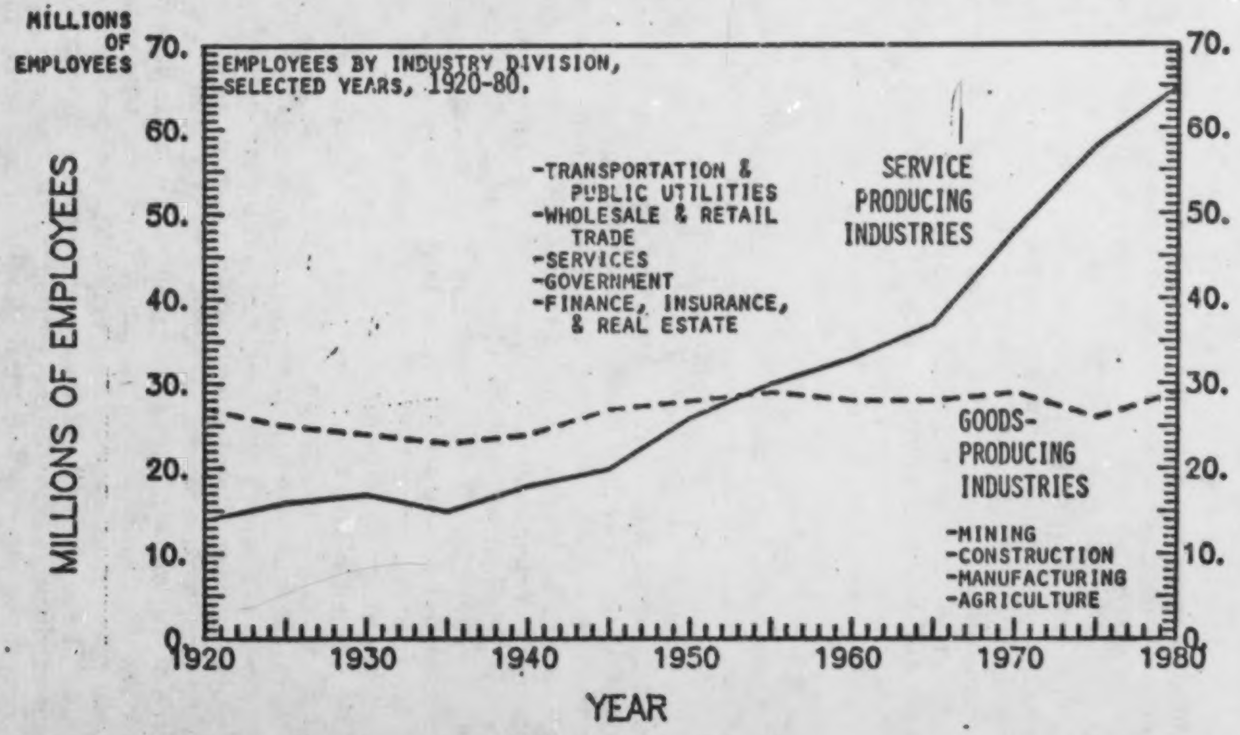
Rarely are public investments in rural economic well-being based on a comprehensive analysis of opportunities that communities have for development. Instead most are typified by the historic preoccupation with goods-producing industries, especially farming, forestry, mining, and manufacturing. For many years these industries have been viewed as the most effective vehicles for creating jobs and providing a basis for income growth. This grows out of the long-standing belief that goods-producing industries are the source of most wealth and that the availability of all services is dependent upon them. The theory continues that the primary means by which a community can improve its income is to produce more goods and sell them to buyers outside the immediate area. The relative economic well-being therefore of any locality, State, or Nation is dependent upon its ability to produce and export goods. Consequently, rural development policy has been dominated by public investments in infrastructure aimed at stimulating the growth of manufacturing in rural areas. Industrial parks are developed, sewer and water systems improved, highways upgraded, financial incentives provided (e.g., industrial revenue bonds, tax incremental financing), and industrial promotion programs begun.

This simplistic application of export base theory is of limited relevance in advanced interdependent economies in which individuals make choices between costly life insurance programs, complex health care, or other services and goods such as personal computers, stereos, and recreational vehicles. Contemporary community economic development policy must include the role of both goods-producing industries and service-producing industries in income and job generation. It must recognize that per capita income can be increased not only through the export of more goods and services but by reducing imports of goods and services which can be produced as efficiently within the community.

The United States economy has changed substantially over the past 60 years. In 1920 slightly more than two-thirds of American workers were involved in the production of goods. A large portion of these workers were farm owner-operators or hired help. In 1954, employment was almost evenly distributed between the goods-producing and service-producing sectors. In the 1980's, well over two-thirds of the workers and self-employed are in service-producing industries (e.g., transportation, public utilities, trade, health care, tourism, business services, government, finance, insurance, real estate). Throughout the years the absolute number employed in the goods-producing sector in the United States has remained relatively constant at slightly less than 30 million people. During the same time period the number in service-producing industries has grown from approximately 14 million to about 70 million (Figure 2).

Figure 2.

TOTAL U.S. GOODS AND SERVICE INDUSTRIES

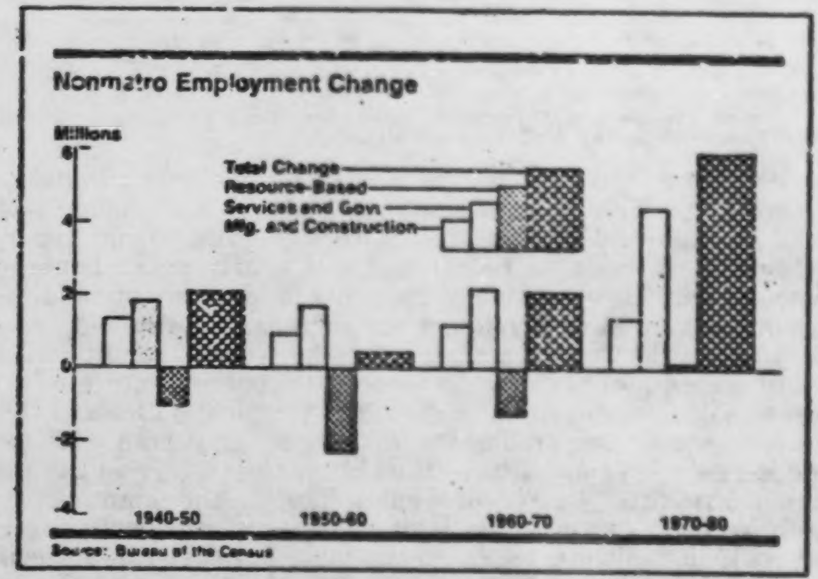


SOURCE: NATIONAL COMMISSION ON EMPLOYMENT POLICY, THE WORK REVOLUTION, 8TH ANNUAL REPORT, WASHINGTON, D.C., DEC. 1982.

Rural areas of the United States have experienced similar shifts in their base of employment and sources of income. During the 1930's, agriculture and agricultural support programs dominated the economic well-being of rural America. This was the period in which many farm programs were initiated. But years of farm consolidation, accompanied by the almost uninterrupted departure of farm and nonfarm people from farm dependent rural areas and the growth of off-farm employment and income sources have changed that (Petrulis, 1985).

Between 1940 and 1970, many rural jobs opened up in manufacturing, construction, government, and private service industries, but job losses in farming, forestry, and mining were largely offsetting. During the 1950's nonmetropolitan areas gained one job in manufacturing for every three lost in industries based on natural resources (farming, forestry, mining). Total employment grew slightly because the growth in the service-producing sector more than made up the differences. In the 1960's, gains in manufacturing employment were neutralized by losses in the natural resource based industries, but gains in the service-producing sector provided over two million new jobs in rural America. In the 1970's total employment in rural areas increased rapidly, due to the tremendous increase in service-producing jobs and the stabilization of employment numbers in the natural resource based sector. Employment increases were also experienced in manufacturing and construction (Figure 3) (Bluestone and Daberkow, 1985).

FIGURE 3.



Source: Bureau of the Census

(From Bluestone and Daberkow, 1985.)

There are two fundamental reasons for the reduction in the relative importance of goods-producing industries as a source of employment in the United States. First, the increased efficiency in production of goods over time has released human and other resources for application elsewhere in the economy. The percentage of the U.S. work force required to meet the country's needs for food, fiber, minerals, construction, and manufactured goods has declined. Farming represents a brilliant example. In 1920 a large proportion of the people working in the goods-producing sector were engaged in farming. Today, a much smaller number of farmers produces enough food and fiber for the entire U.S. population with large amounts available for export. Similar examples could be provided in manufacturing (Table 2).

TABLE 2.—SHARES OF FULL-TIME EQUIVALENT EMPLOYMENT AND GROSS NATIONAL PRODUCT (1972 DOLLARS) BY INDUSTRY 1947, 1969, 1982

	1947		1969		1982	
	Employment	GNP	Employment	GNP	Employment	GNP
Nonservice industries	43.4	37.4	35.1	36.0	28.7	30.2
Agriculture, mining, construction	11.1	12.9	7.4	10.4	7.2	7.6
Manufacturing	32.3	24.5	27.7	25.6	21.5	22.6
Service industries	56.6	62.6	64.9	64.0	71.3	69.8
Distributive services	13.5	13.4	11.0	15.0	11.7	16.5
Complex of corporate activities [1]	6.1	15.5	10.0	18.3	13.9	22.7
Retail and other consumer	20.2	16.6	18.8	13.1	19.2	12.2
Nonprofit	2.6	2.7	4.7	3.6	7.5	5.3
Public sector	14.2	14.6	20.5	14.1	19.1	12.0
All industries percentage [2]	100.0	100.0	100.0	100.0	100.0	100.0
Number [3]	48,040	468.4	71,405	1,079.0	84,712	1,485.4

[1] Because of data limitations, this grouping does not include employment and GNP originating from the central offices of nonservice industry firms.

[2] Columns do not add fully to 100 percent because of a "rest of the world and residual" category not shown.

[3] Full-time equivalent employees shown in thousands. GNP shown in billions of 1972 dollars.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, "National Income and Product Accounts of the U.S., 1929–1974" and *Survey of Current Business*, July 1983, tables 6.2B and 6.8B. Adapted from Noyelle and Stanback, 1984.

The resultant increases in real wealth have allowed individuals to demand the advantages provided by the service-producing sector. Health, life, and retirement insurance (including social security) have become an essential requirement of nearly every household. The use of credit cards, personal checking, and other financial services formerly viewed as privileges are increasingly deemed necessities. Opportunities have expanded for individual mobility, education, and recreation. Society can afford to provide some relief from the stresses of unemployment, aging, and physical handicap.

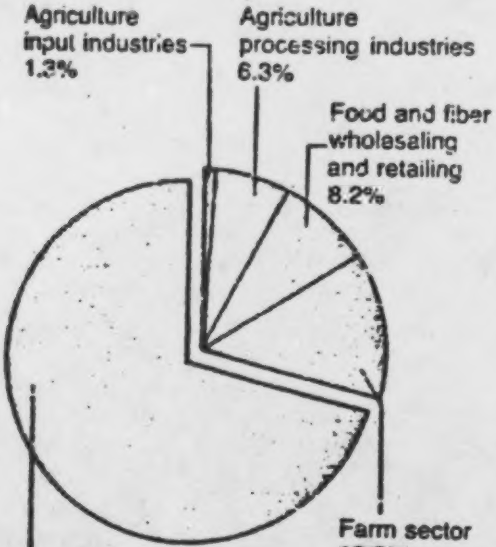
A second major reason for the decreasing importance of goods production as a job generator in the U.S. is the change in the world economic structure. In recent years, jobs in the manufacturing sector have been escaping the United States at an increasing rate (Drucker, 1980, Naisbitt, 1982). As the tasks employed in a specified manufacturing industry become more standardized, and the technology utilized ages, firms seek economic climates in other countries which are more favorable at least in the short run. Currency exchange, wage rates, governmental regulations, political stability, and financial incentives are all factors affecting economic climate. An increasingly large share of textiles, leather products, steel, automobiles, and radios are produced outside of the United States.

The country is not apt to regain its former share of these products regardless of future increases in the U.S. production efficiency.

Part of the shift in employment from goods-production to service-production may be accounted for by the fact that some relatively specialized service functions within the goods production sector are now purchased outside of the firms. This may be particularly true of business services such a personnel recruitment, advertising, and computing.

Although rural America has not escaped the general restructuring of the United States economy, agriculture-related employment remains an important part of its economic base. This sector includes farming, agricultural input and processing industries, and food and fiber wholesaling and retailing. It accounted for about 29 percent of the jobs held in nonmetro areas in 1979. The farm sector itself accounted for 13.2 percent of total rural employment (Figure 4). Fluctuations in the economic well-being of agriculture also effects urban America. In 1979, 46 percent of the jobs in agricultural input industries, 61 percent of the jobs in agricultural processing and 61 percent of the jobs in wholesaling and retailing food and fiber were in metropolitan counties (Petrulis, 1985).

FIGURE 4.—*Importance of agriculture-related employment in the nonmetro economy, 1979*



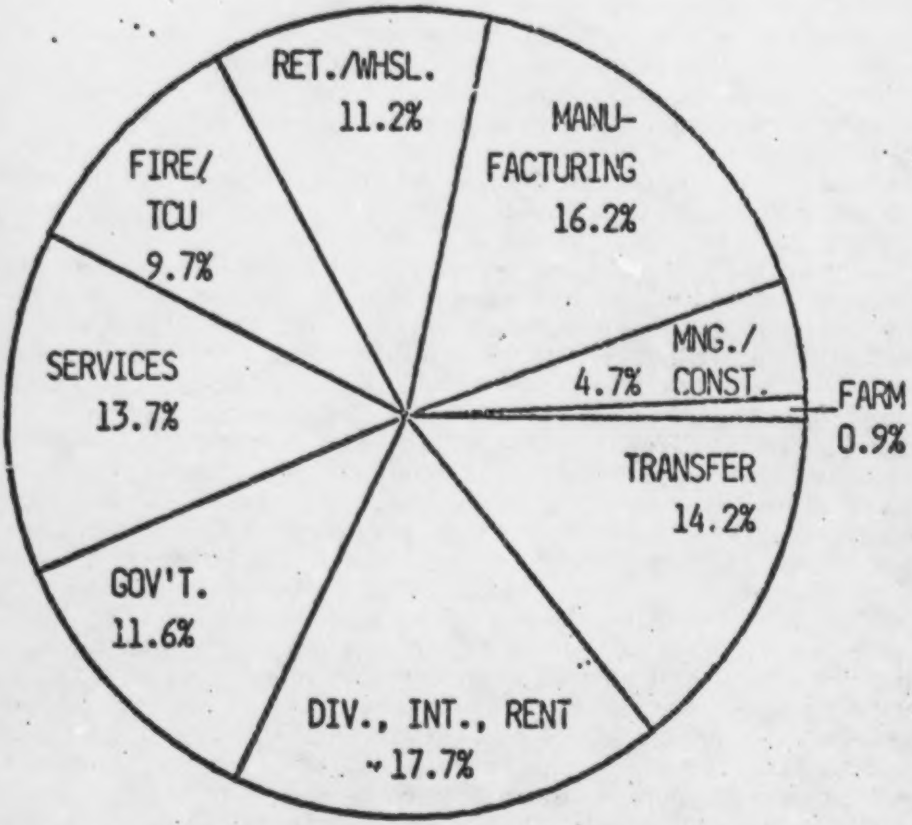
(From Petrulis, 1985.)

CHANGING SOURCES OF PERSONAL INCOME

The major changes in sources of employment have been accompanied by significant shifts in sources of personal income. As might be expected, the percentage of personal income generated by employment in the goods-producing sector has declined and that of the service sector has increased relatively. In 1983, only one in six dollars of personal income in the United States came directly from manufacturing industries. Nearly half of the dollars available for personal expenditures came from the service-producing sector. Only one in 100 came directly from farming (Figure 5).

FIGURE 5.—*United States sources of personal income*

1983



U.S. TOTAL = $2,853,820,000,000

Source: Bureau of Economic Analysis.

About 10 percent of labor and proprietors' incomes in nonmetro areas is attributable to farming. Farm income is even a smaller percentage of total personal income. Nonetheless, farming is a much more critical income source in certain rural cases. Farm dependent counties account for about 30 percent of all nonmetro counties. A county is defined as farm-dependent if it receives 20 percent or more of total labor and proprietary income from farming (Ross and Green, 1985). Labor and proprietary income represented about 68 percent of total personal income in the U.S. in 1983. In farm dependent counties, the economic well-being of farm and nonfarm families is much more closely tied to agricultural prosperity. Even in these areas other sources of income are vital to survival (Petrulis, 1985).

Less well recognized is the large share of personal income controlled primarily by people of retirement age. In 1983, 14.2 percent of personal income came from transfer payments, most of which are social security, medicare, and medicaid payments. Another 17.7 percent came from dividends, interest, and rent. This property income also goes in substantial measure to the elderly population. Nearly one out of three dollars of personal income are "non-earned" income and controlled largely by elderly people. In many of the farm-dependent counties, this income exceeds that from farming.

In years past, developers perceived the elderly as an economic drag on the rest of the community. It was felt that they added to the costs of public and private services (e.g., hospitals, nursing homes) with little benefit to community income. These perceptions are changing. Recent research has shown that the elderly population are not only an important source of income and thus local retail sales and service revenue and bank deposits but they also produce high employment multipliers. Approximately $4,000 of social security payments (not accounting for related income from other sources such as retirement programs, dividends, interest, rent, medicare) is sufficient to produce one job. This is contrasted with the need for over $91,000 in manufacturing payroll and $65,000 in agricultural sales to produce one additional job (Summers and Hirschl, 1985). The elderly are more apt to spend their income locally and on items with a high labor content than are younger workers or proprietors.

Legislative action at the national level affecting social security and medicare programs or earnings from non-farm investments is apt to have a more substantial income effect in much of rural America than farm policy itself. Rural incomes policy at the national, state, and local level must recognize the growing importance of the "silver-haired" economic base (Shaffer, 1981).

OPPORTUNITIES FOR FUTURE ECONOMIC GROWTH

To be effective, rural economic development policy must necessarily recognize that prospective sources of future income and employment growth are apt to be different than those of the past. Constructive farm policy which assures an adequate supply of food and fiber to the Nation, a reasonable return to resources employed in farming and agriculture-related industries, and at the same time allows for the necessary long run structural adjustments in American agriculture and the U.S. economy remains the cornerstone of an overall rural economic development policy. Within the general United States economic scheme of things this includes a commitment to the continuing efficiency generated by improved technology. Although farm and agriculture-related industry represents a declining share of rural employment and income, it remains extremely important to the economic well-being of farm-dependent counties and to other rural and urban communities as well.

The critical new ingredient in the development of an effective rural economic development policy is the recognition of the tremendous importance of off-farm sources of income in the maintenance of the economic well-being of all rural families, farm and non-farm alike. These sources include employment in manufacturing and service-producing industries as well as income from transfer payments, dividends, interest, and rent. The key for policy makers interested in rural America is to identify and stimulate, when necessary, those industries offering the greatest opportunity for economic growth in rural areas.

Type of Industry

The U.S. Bureau of Labor Statistics has projected employment growth by industry between 1984 and 1985. Of the top 40 industries in projected net new jobs growth, only 5 are in manufacturing and 1 is in construction. The remaining 34 are in the service-producing sector (Table 3). The 10 industries projected to grow the most in absolute employment—eating and drinking places, miscellaneous business services, computer and data processing, educational services, personnel supply services, nursing and personal care, grocery stores, department stores, wholesaling of machinery and equipment, and offices of physicians—represent 6,159,000 net new jobs.

TABLE 3.—PROJECTED HIGH EMPLOYMENT GROWTH INDUSTRIES

SIC code	Title	Projected employment growth, 1984-95
580	Eating and drinking places	1,255.9
739	Miscellaneous business services	801.4
737	Computer and data processing services	675.6
820	Educational services (including State and local)	618.9
736	Personnel supply services	546.6
805	Nursing and personal care facilities	505.4
541	Grocery stores	499.1
531	Department stores	441.1
508	Machinery, equipment and supplies (wholesale)	409.5
801	Office of physicians	405.5
810	Legal services	399.7
734	Services to buildings	333.9
891	Engineering and architectural services	325.5
930	Local government (Ex Hosp & Ed)	316.3
920	State government (Ex Hosp & Ed)	311.2
806	Hospitals (including State and local)	287.9
421	Trucking, local and distance	246.8
701	Hotels, motels, and tourist courts	246.4
357	Office and computing machines	229.6
799	Miscellaneous amusement and recreation services	212.7
893	Accounting, auditing, and bookkeeping	205.4
808	Outpatient care facilities	199.3
594	Miscellaneous shopping goods stores	181.9
367	Electronic components and accessories	173.7
836	Residential care	172.8
366	Communication equipment	169.9
307	Miscellaneous plastic products	167.3
808	Health and allied services, N.E.C.	164.0
602	Commercial and stock savings banks	161.8
489	Communication services, N.E.C.	149.6
804	Office of other health practitioners	141.9
753	Automotive repair shops	136.8
633	Fire, marine and casualty insurance	134.0
154	Nonresidential building construction	132.3
802	Office of dentists	125.3

TABLE 3.—PROJECTED HIGH EMPLOYMENT GROWTH INDUSTRIES—Continued

SIC code	Title	Projected employment growth, 1984–95
832	Individual and family social services	105.3
491	Electric services	104.9
275	Commercial printing	97.2
514	Groceries and related products (wholesale)	95.8
621	Security brokers and dealers	94.9

Source: "Employment of Wage and Salary Workers by Industry 1984 and Projected 1995 Alternatives," Bureau of Labor Statistics, U.S. Department of Labor, November 1985. (Moderate growth estimates are used for 1995 labor force.)

Opportunities for job expansion will not be equally available to rural and urban areas for all the high growth industries. Employment and drinking places and miscellaneous business services have grown rapidly in both urban and rural areas. On the other hand, computer and data processing employment growth has generally been an urban phenomenon (Cotter, 1985). Employment growth rates between 1975 and 1982 for trade and services as a whole were slightly higher in metropolitan counties than nonmetropolitan counties. In absolute numbers employed, the metro areas far exceeded nonmetro areas (McGranahan, 1985).

There is little doubt that manufacturing will continue to play a critical role in any rural development scheme. In absolute numbers of people employed, it continues to be important. In 1980 nearly 21.5 million were employed in manufacturing. This is roughly 21 percent of the total jobs in the U.S. (Bureau of Labor Statistics, 1979). Projections are for durable goods manufacturing employment to increase 159,000 and nondurable goods manufacturing employment to increase 17,000 between 1982 to 1990. Most of the manufacturing job growth in absolute numbers is expected in urban areas. Rural areas can expect some growth in the nondurables sector. As a consequence of economic restructuring, some industries will decline while others grow. New plants will be built while others close. Development opportunities will exist for specific communities. The important point is that although expansion of the goods-producing sector will continue to be an important part of rural economic development, it will no longer be the dominant force it once was.

Economic development strategies

The specific strategies chosen by policy makers concerned with rural America will vary depending upon the locus of policy development (community, State, Nation) and by relevant values, resources, and goals. Five general strategies by which employment and income can be improved are to: 1) increase the efficiency of existing firms; 2) encourage business formation; 3) attract new basic employers; 4) improve the ability to capture dollars; and 5) increase aids from broader governments. There is a wide range of policy initiatives which might be taken under each strategy. They are not mutually exclusive, and in fact, a great deal of interaction is likely.

- *Increase the Efficiency of Existing Firms:* The more efficient existing firms are, the more competitive they will be in state, regional, national, and international markets. The greater the efficiency, the more net income they can return to an area. The ability to be competitive over time is the greatest assurance a firm can have of its capacity to maintain or expand an operation in a specific locality. High levels of operating efficiency are of equal concern to firms in industries in which total employment is declining. The most efficient are capable of surviving longest.

The largest source of employment growth in most areas is the expansion of existing firms. The often repeated "80 percent of new jobs comes from the growth of existing firms" may in fact be an understatement. A Brookings study reports that on average, each percentage point of net employment growth is the net combination of 1.1 percent growth due to births, 1.7 percent growth due to expansions, 1 percent loss due to deaths, and 0.8 percent loss due to contractions (Armington and Odle, 1982). Expansion may take the form of growth in employment at an existing site or an added plant, office, or outlet in a new location.

There are a number of initiatives which will assist businesses in improving their efficiency. Existing firms can be strengthened by high quality business management, science and engineering education, and counseling. Barriers to growth may be uncovered by an industry visitation program in which community leaders visit business executives. Expansion may be encouraged through the development of appropriate capital sources. The quality of the work force available to employers can be improved through vocational and technical education, employment counseling, and supportive social services. The provisions of local and regional facilities (e.g., communication and transportation systems) which are competitive in quality and price does much to improve business efficiency and access to nonlocal markets.

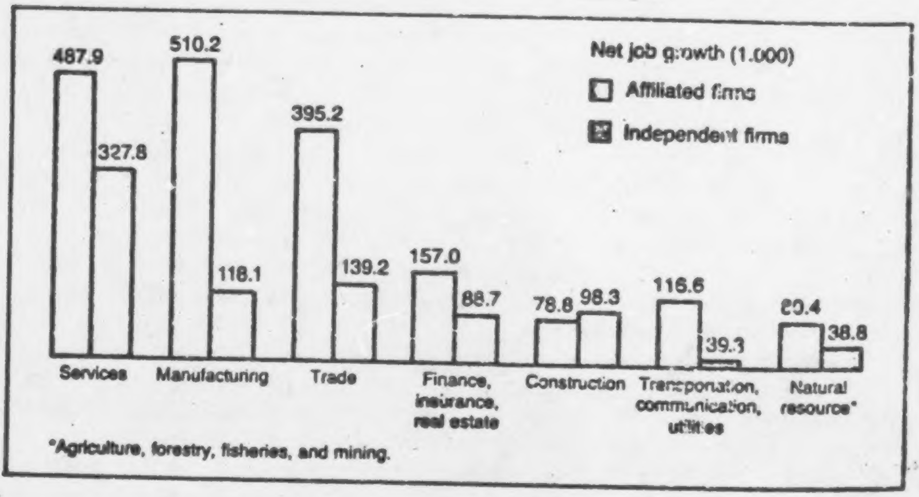
- *Encourage Business Formation:* There is a continuing need for new enterprises to meet changing demands resulting from population growth or evolving goods and services (e.g., video cassettes, outpatient care, fast foods). A new business can mean new income and employment as well as expanded trade with existing businesses. It can mean the capture of sales which would go otherwise to other communities.

A number of recent studies have placed great emphasis on the importance of the births of new firms, especially small ones, in the creation of jobs (Schweke and Friedman, 1983). Brookings reported that 41 percent of net new jobs between 1978 and 1980 were created by small independent enterprises (Armington and Odle, 1982). A recent study produced for the Small Business Administration indicates that small firms produce 2.5 times as many innovations as large firms, relative to the number of people employed (Gellman Research Associates). More than half of the technological advances in this century are credited to individual inventors or small companies (Environment and Management Report, 1967). Some argue that entrepreneurs are the only true generators of new jobs and income (*Inc. Magazine*, 1984, Vaughn, 1985).

Historically, little public action has been directed at taking advantage of this opportunity. Investment of private or quasi public funds in business startups could be encouraged through the formation of capital groups. This is especially important for businesses of a nontraditional nature or which have relatively tangible assets which can serve as collateral for loans. Individual counseling and intensive education can be provided those interested in forming a new business. Studies of market potential may identify opportunities for new establishments. A positive community attitude toward entrepreneurship is also helpful.

- *Attract New Basic Employers:* There is little migration of the entire operations of individual business firms in the United States (Birch, 1979). The attraction of new branch locations for firms headquartered elsewhere does represent a real opportunity in rural areas. In the years between 1976 and 1980, new business establishments (a combination of new branches of affiliated firms and local startups) created about the same number of jobs in the United States as expansions of establishments already existing in a community (Figure 6). Establishments affiliated with regionally headquartered firms are especially important in rural areas.

FIGURE 6.—*Corporate affiliates created most new jobs in rural areas, 1976–80*



(From Miller, February 1985.)

In nonmetropolitan areas, firms with less than 100 employees generate about the same number of net new jobs as larger firms. Businesses with less than 20 employees generated new employment at the fastest rate (Miller, May 1985; Miller, October 1985).

The attraction of new basic employers to rural areas will add employment and income directly. Through the multiplier effect, other jobs and income are also added. Care must be taken not to overestimate the potential employment and income effect of new employers. Many of the jobs are apt to be taken by new immigrants or those who live in neighboring communities.

Policy leaders have a number of action alternatives. New industries might be encouraged to locate branches in specific communities by the development of industrial, office, or commercial sites; public services; and the provision of specific labor availability information. The development of community and regional facilities (e.g., transportation, recreation, communication, business services) necessary to attract new employers also benefits existing businesses and prospective entrepreneurs. Public or private assistance in the provision of capital resources is sometimes helpful in attracting new business. Searches for firms which might be interested in developing a branch operation in a specific area are a "long-shot." The location of public programs, projects, offices, facilities, and/or other services may also have a positive income and employment effect. Collective action through formal organizations such as industrial development corporations is vital to the success of attraction efforts.

- *Improve the Ability to Capture Dollars:* Farmers, the self-employed, workers, retirees, and businesses of all types in rural areas control a substantial amount of funds with which purchases will be made. Every dollar expended within a community for retail and wholesale goods and services as well as industrial inputs adds to local employment and income. In contrast, every expenditure made outside of the rural community not only reduces the immediate employment and income impact but also the likelihood of an internal multiplier effect. Small towns in rural areas are increasingly loosing retail sales to shopping malls in larger cities (Pulver *et al.*, 1982). In many communities, thousands of people pass on interstate highways or visit a nearby tourist attraction. Hospitality industries represent a major growth opportunity for a large number rural areas, particularly those possessing natural scenic beauty.

Specific action alternatives are available. Surveys of consumer needs and buying habits can identify the market potential of retail and service outlets. The share of the retail market captured in rural areas can be improved through downtown analysis and renewal. Service quality can be improved through employee training programs. Owners and operators of businesses can be taught to use contemporary purchasing and marketing techniques. Consumers often bypass small towns simply because they are unaware that comparable goods and services are available there at competitive prices. The most vibrant and alive retailing centers are those which combine effective product and service marketing with recreational activities. Organizations such as Chamber of Commerce, business clubs and downtown associations can breath life into many retail and business communities. These efforts are not zero sum if the policy goal is to provide economic stimulation to rural areas.

- *Increase Aids From Broader Governments:* The allocation of public monies is an important concern of those interested in improving the economic well-being of rural America. Dollars taxed away from any community to broader governmental units (county, special taxing districts, state, nation) have a negative economic effect locally unless returned through some form of expenditure. Not only are state and national governments major employers, but they return large quantities of funds to local communities through grants and aids and transfer payments. Government employment represented 11.6 percent of total U.S. personal income in 1983. Transfer payments amounted to 14.2 percent of the total. These two sectors accounted for about one-fourth of total U.S. personal income (Figure 5). This does not reflect the total government expenditures which would include materials such as steel in bridge construction and food used in special programs for the needy. Governmental expenditures do not always occur through a standard formula but often require direct action by local government or the private sector.

Once again, the chances of government funds flowing to rural communities can be influenced. The organization of education and other program efforts can help assure the correct use of public assistance programs for the elderly, handicapped, and others who cannot work. Well organized transportation, meal services, outpatient health care, recreation, and other services focused on the elderly can make rural communities more attractive places in which retirees might choose to live. Monitoring of government programs and support by local officials will increase the likelihood that aids for streets, parks, sewers, and other infrastructure will be utilized in rural areas. Urban areas generally have larger staffs tc perform this function than their rural counterparts. Political action and decision at the local, state, and national level can directly effect the location of important government facilities and the rural-urban equity of taxing and other fiscal policies.

SUMMARY

There is growing interest in the generation of intelligent rural economic development policy. The continued restructuring of American agriculture has led to declining farm numbers and increased reliance on off-farm sources of income by those farm families who remain. Policy focused on farm income and production remains a critical factor in determining the economic well-being of rural areas but only one part of a more complex rural economic picture. The survival of rural America, both on the farms and in smaller communities, is absolutely dependent upon the expansion of income and employment opportunities in rural areas.

The development of comprehensive rural economic development policy appropriate to changing times is critical. The goods-producing sector of the economy remains an important but declining source of net new jobs. The greatest increase in U.S. employment over the next few years will be in the service-producing industries. This is also true in rural areas. It is anticipated that expansions of existing businesses in either local or new branches will continue to be a major source of employment. Small independent businesses will also be important job generators through new formations or expansions. An equally critical element is the growing importance of government employment, transfer payments, and property income as the base of family livelihood.

Comprehensive rural economic development policy must consider all of the variables influencing employment and income. These include migration of employers, changes in size of existing firms, births and deaths of firms, and private and public expenditure patterns. Each variable can be influenced by a number of strategies. There is much yet to be learned about the precise effect of each strategy. Nonetheless, policymakers both private and public, can choose a relatively clear set of strategies aimed at economic growth in rural America within existing value and resource conditions. No amount of action will absolutely guarantee growth in rural employment and income. Neither can inaction assure no growth. Concentrated effort following comprehensive rural economic development policies simply offers the best hope for the future economic well-being of rural families, both farm and nonfarm.

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PERSPECTIVE ON RURAL DEVELOPMENT IN THE 1980'S

By Willard (Bill) Phillips, Jr. *

Over the past several years, a dramatic transformation in the definition of rural economic development has taken place. This change has occurred at every level, from the Federal buildings in Washington to the State capitals to the grassroots communities.

Furthermore, I believe the impetus for this transformation lies in the Reagan Administration's resolute pursuit of New Federalism. Great emphasis is placed on self-help and reliance on indigenous resources. For State and local governments, as well as inter- and intra-state regional bodies, New Federalism demands novel approaches to rural development. No longer can it be business as usual. This challenge, while not always accepted gladly or with open arms—as are few major changes—has compelled States and localities to take a much more active, involved role in their own development. To a truly remarkable extent, this decentralization has released energies few would have imagined possible.

No longer is there a seemingly endless array of Federal programs, each with its own specific set of regulations. Instead, there are a few major block grants that afford States great flexibility and, accordingly, great responsibility in determining their own economic destinies. The guiding concept is simple and straightforward. In the public sector, States and communities are not only the best judges of their own development needs, but also the most effective at responding to those needs. This approach gives them the freedom to do just that.

For State and local government, the transition has not always been an easy one. This has been especially true with the reductions in Federal support to States and communities necessitated primarily by our serious budget deficit problems. Nevertheless, most now have accepted the changes as permanent and are plowing ahead with unparalleled speed and conviction.

It is no coincidence that New Federalism, which has promoted so many innovative approaches at the State and local government levels, jibes so well with the great resurgence of entrepreneurship in the private sector. In truth, the United States is experiencing two parallel and highly complementary revolutions in entrepreneurship at the same time: one in business and one in State and local government. This, in turn, has helped to spur the long sought partnership of aggressive and risk-oriented private enterprise bolstered by constructive and restrained government actions. Mutual interdependence is now exploited, even revelled in, not purposefully ignored or avoided.

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The extraordinary numbers that document this entrepreneurial resurgence in our economy are well known and go a long way in explaining the new direction government is taking:

- Over 24 million jobs were created in the decade from 1974 to 1984, despite the effects of two oil crises and three recessions [1].
- Our current recovery has averaged over 300,000 new jobs per month.
- Between 1980 and 1984, over 2.9 million new businesses were formed [2]. That amounts to more than one new business created for every farmer in America.

Perhaps most significant is that well over two-thirds of all these new jobs were created by small businesses of 20 people or less. Robert Friedman, president of the Corporation for Enterprise Development, described another fascinating feature of this growth at the Agenda for a Dynamic Economy Symposium at SRI International in July. He said that one-half of all new jobs over the last five years were created by independent businesses under four years old. Mr. Friedman pointed out that should this trend continue, as seems likely, one-half of the new jobs to be created over the next five years will be by businesses not yet formed, by people not yet in business.

The importance to State and local government of this explosion in small business entrepreneurship cannot be overstated. In terms of stimulating private enterprise, there is simply no other area where the actions of States, and especially communities, can have such profound impact as in the domain of small business development. Moreover, and to the further benefit of communities, it is the small business entrepreneur who tends to be both most dependent upon and loyal to the community in which he/she lives.

It is in this environment of self help, of public and private entrepreneurship and innovation, that State and local governments have taken the lead in creating new solutions to rural development problems. New linkages are emphasized as State, regional, and local officials are drawn together out of practical necessity. New linkages are pursued so that previously separate programs in areas like small business development and job training can be strategically combined for the most efficient use of scarce resources. As a result, increasingly innovative and stimulative use is made of State and local tax and regulatory powers. More productive and coordinated applications are made employing Federal block grant programs to achieve development goals. There is more extensive and creative tapping of private sector resources and leadership in community development projects.

The key message now reaching home throughout rural America is that new and innovative linkages are essential. It is not just for their own sake or for organizational "neatness," but to successfully confront today's pressing community economic development issues. In so doing, virtually every State and community discovers that it has at its disposal an impressive array of actors and resources, often forgotten or overlooked, that can be exploited to great advantage [3].

Examples of these new entrepreneurial linkages, and the projects that grow from them, abound and are truly exciting. Over half of the States have passed their own enterprise zone legislation and are now working more closely with their respective business communities to promote development of depressed areas. In Louisiana, for instance, where State law requires that one-fourth of the State's census tracts qualify as enterprise zones, businesses in rural zones are entitled to a $2,500 tax credit for each new worker [4]. Provisions such as this not only give local business and government something to talk about, but clearly indicate to the private sector the determination of State and local officials to actively promote economic growth.

About 20 States have established venture capital funds, including predominantly rural States like Iowa, New Mexico, and Utah. While each State's approach is unique, all are clearly illustrative of the State's desire to take an active role in development [5]. Often, after rigorous screening procedures, companies successful in obtaining State venture capital are then able to leverage that investment to attract additional private capital.

Many States are now involving themselves in the development of advanced technology centers, or high technology corridors as they are also known. Realizing the vital and growing role that high-tech plays in the long term competitiveness of our economy, these States have established new linkages with academe and business.

A few of the States most active in high-tech development are Pennsylvania, Texas, North Carolina, California, Massachusetts, Georgia, and Utah. One of the best high-tech programs is Pennsylvania's Ben Franklin Partnership Program. Under the Partnership, four advanced technology centers were established at universities around the State. Much of the Partnership's success has been credited to the many diverse groups behind it. Although initiated and designed principally by the State, educational and business leaders have all contributed significantly. In the process, by displaying a firm commitment backed with time, energy, and resources, the State has shown its seriousness and resolve. Appreciative of this, the private sector has responded enthusiastically. In their first two years, the four advanced technology centers attracted over $115 million in public and private funds [6].

At the local level, one of the most successful approaches to community revitalization was developed by the National Main Street Center of the National Trust for Historic Preservation. The Main Street Program was launched as a three-town pilot program in 1977 to address the problems of physical decline and economic change in small downtown areas all across the country. Currently, over 160 communities in 23 states use the Main Street approach. To date, the economic impact has been phenomenal. In the first 29 communities alone, Main Street has generated $148 million in new investment, 547 new businesses, and over 600 rehabilitated buildings.

From the beginning, Main Street has emphasized four basic points: organization, promotion, design, and economic restructuring. Both comprehensive and adaptable, this four-point approach is a broad-view concept that provides a framework for each community to solve its own unique problems. In practice, whether it happens to be a community fair to drum up local spirit and commerce, or a storefront renovation to restore historical integrity and a pleasureable environment for shopping, Main Street responds to the needs of small towns with a grassroots approach to revitalizing down town areas. It works because it involves the whole community, encouraging new ideas and a reliance on local resources.

Another very popular and innovative economic development tool is the small business incubator. Incubators, too, are the result of a wide range of linkages, often involving State and local government, educational institutions, private profit and nonprofit companies, and various community organizations. The principal purpose of an incubator is to help small businesses through their critical and perilous start-up phase. They accomplish this by bringing the developing businesses together into a common facility where shared tenant services, support systems, and consulting services are made available to better insure the successful development of those new businesses.

At this time, there are 101 small business incubators operating in 27 States. Estimates show that public, private, and university groups, working individually and together, are gearing up to open at least 100 more incubators in the next year. If the current rate of growth continues, the National Business Incubation Association forecasts that 1,000 incubators will be operating by 1990. Interestingly, a number of innovative communities have demonstrated that Main Street and incubators can work exceptionally well together. In many downtown areas, there are sizable, old buildings that are no longer in use and have fallen into disrepair. Yet, these same buildings often lend themselves very well to adaptive reuse with their large open layouts. Consequently, some of them have been successfully transformed into thriving incubator facilities, and thereby have helped further the revitalization of a downtown area.

A third example highlighting local initiatives and new linkages is called retention and expansion. As the name suggests, this approach emphasizes the retention and expansion of local business. It is the antithesis of "smokestack chasing," a policy that has become seriously questioned in recent years. Many communities throughout the U.S. have decided that the most productive use of their scarce development resources is to distribute them in their own backyard. In practice, it is usually easier and less costly to save or to help expand an existing business than it is to create new businesses or attract others from outside jurisdictions.

Not infrequently, this revelation has happened only after a prized local business was forced to shut its doors or leave the area, even though community involvement at an earlier stage might have changed the outcome. Along these lines, one of the main components of the retention and expansion approach is the visitation program. With visitation, respected businesspeople and local officials periodically call on a local company, at the owner's convenience, to ask how business is going and to see if there is anything the community or local government can do to help if some problems do exist. Often, potentially serious problems can be "nipped in the bud" as a result of these visits. Furthermore, and in a general way, the increased positive attention by the town for its local businesses produces a much closer and more responsive community.

There are dozens of other examples of innovation and renewed assertiveness on the part of States and localities. They range from certified cities to community development corporations, from small non-profit companies successfully helping welfare recipients become entrepreneurs to small towns creating their own alumni associations to promote local development.

All of these examples are representative of the new entrepreneurial approach to rural development taken by State and local governments and involving new, productive linkages with all sectors of the local economy. Their efforts are the tangible results of consciously or unconsciously implementing a concept called the Entrepreneurial Strategy. In practice, an Entrepreneurial Strategy:

- uses public resources much like an entrepreneurial young business firm with an eye for special opportunities;
- encourages local officials and citizens to positively nurture the economic development of the community rather than negatively control or regulate it;
- seeks indigenous opportunities and resources to provide new employment rather than attempting exclusively to attract firms from elsewhere;
- reduces dependency on outside stimuli and resources, such as Federal programs, relying instead on creative new approaches that take advantage of the private market in combination with local public resources; and
- relies upon creative use of private resources to meet public needs [7].

Clearly, this is a dynamic approach. But we live in a time of rapid and fundamental change requiring no less an approach than one emphasizing flexibility, linkages, and innovation. The challenges put to State and local government to successfully promote consistent economic growth have never been greater. However, with the new institutional mechanisms now in place, the public sector has never been more suited to this kinetic environment.

In fact, new State and local responsibilities have resulted in increased regional and community commitment, and will continue to do so. They have sparked innovative, multi-level financing schemes and have resulted in more and deeper private sector involvement. These blossoming linkages are especially important because the challenge to the private sector is even greater. Private enterprise is the engine that drives economic change and growth in our society. And with our entrepreneurial economy, business, too, has never been more suited to the task.

In my view, the fact that so many new and innovative examples exist in rural economic development, many of which might not have been possible before, is cause for great optimism. These new roles and novel approaches indicate that many of the frequently cited concerns or problems in rural economic development are viewed instead by countless State and local officials as challenges and opportunities to be energetically exploited.

The Federal Government can play an important, albeit secondary, role in this transition by keeping States and communities informed of the latest public and private innovations, and by helping coordinate existing Federal resources to serve rural America more efficiently. Both of these functions are still greatly needed and speak to the necessity of having active representation for the interests of rural America at the Federal level, as well.

In sum, for those who continue to view rural development as a cornucopia of Washington infrastructure money, these may seem the worst of times. But for States and communities across the country that do not have the luxury of sitting back and objecting to the turbulence of a rapidly changing world, the many innovative and entrepreneurial solutions they have already created are answer enough. True development has always, and will always, come from within. Federal assistance, however pleasant, is no substitute for the critical base created by local will, local energy, and local productivity.

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RURAL DEVELOPMENT WORTHY OF THE NAME

By Jonathan P. Sher[*]

Beats there a yuppie heart that does not covet a country home where one can live "the good life" (at least on weekends and holidays) far from the pretense, complexity, and wickedness of the city? And yet, who among them does not think that rural people actually live "in the sticks", "in the boondocks" or "in the middle of nowhere?" We seem to alternately envision the Waltons and the Beverly Hillbillies as our rural icons—and cannot seem to decide whether we believe in the Mayberry version of rural life or buy into the innumerable TV stories featuring the "corrupt small town with the evil secret to hide."

Rural people have long been burdened by exaggerated, and contradictory, stereotypes. One moment, we romanticize such "folks" by proclaiming them to be the "salt of the earth" and the "backbone of the Nation." Then, the next moment, we declare them to be hicks, bumpkins, rednecks, yokels and all the other names from our societal lexicon of derogatory terms for anyone rural.

America's tendency to lurch back and forth between its *bucolic* and *bubonic* visions of rurality might be viewed as an odd, but essentially harmless, quirk—were it not for the fact that these rural stereotypes have had such a profound, and profoundly deterimental, effect on the nature and consequences of rural development nationwide.

Our State and Federal Governments reflect this careening between extremes. America has never had a comprehensive rural policy in force, but rural people have been (and continue to be) strongly affected by both governmental action and inaction. During periods in which the bucolic view prevailed, the presumption was that everything was just fine in the countryside and therefore, governmental intervention constituted interference. This, in turn, allowed policymakers to feel comfortable (if not downright virtuous) about turning a blind eye toward rural issues and saving their energy for keeping government "off the backs" of their rural constituents.

In retrospect, such neglect was often far from benign. Perennial economic and social problems across rural America did not disappear because government officials and legislators refused to see or heed them. Rather, they worsened and spread. Most often, rural problems were "solved" by rural people migrating from their home communities and becoming full-fledged participants in our Nation's emerging *urban* crisis. Still, it is worth remembering that even after this exodus from the countryside to the city, rural America continued to boast the Nation's highest rates of poverty, illiteracy, un/underemployment, infant mortality, and substandard housing.

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Agencies acting upon the bucolic myth left two other unfortunate legacies. First, they reinforced the belief among rural citizens that any difficulties they were experiencing must be their own fault and any solutions must remain their own individual responsibility. After all, the folks in Mayberry were always able to sort out *their* own troubles and certainly were too proud and self-reliant ever to accept governmental assistance. This attitude discouraged effective rural community organizing at the state and national level—and thereby contributed to the second negative legacy, namely, the political invisibility of rural people. As long as proper deference was paid to narrow price support programs and import restrictions, politicians learned they could ignore larger rural problems with impunity and without fear of electoral reprisal.

Of course, at other times (and in other agencies) the governmental pendulum swung to the opposite extreme. During the Great Society era, for example, some agencies and policymakers became transfixed by the bubonic image of rural people and their communities. Rural Americans were The People Left Behind and the self-appointed role of government was to save these backward folks from themselves and to drag them (kicking and screaming, if necessary) into the modern world and the mainstream of American society. This was the heyday of the deficit model of rurality, with its presumption that rural life was best defined by what it *lacked* when compared to metropolitan America.

Aside from the relentlessly negative message this vision offered to rural residents about who they were, where they came from and what their future was likely to be, there were other problems caused (or at least reinforced) by the deficit model. One was the extent to which traditional rural institutions and activities were sacrificed on the alter of modernity and replaced by ill-suited transplants from our urban culture. Thus, small-scale, locally-appropriate schools, farms, businesses and technologies were swept away by the tide of capital-intensive, centralist reform.

The other harmful residue of governments acting upon the bubonic image of rural America can be found in the passivity and dependence such an attitude engendered among its ostensible beneficiaries. Encouraging rural people (however subtly) to view themselves as hapless, helpless and hopeless *victims* of forces and circumstances beyond their control is as counterproductive in the long run as reinforcing feelings of total personal culpability for any failures or problems a rural individual might face. One attitudinal extreme leads citizens to believe (wrongly) that government plays no particular role in either the existence or the amelioration of their difficulties, while the other extreme encourages the (equally wrong) idea that their salvation is dependent upon governmental intervention and the adoption of metropolitan institutional and economic models.

It is more than a little ironic—not to mention dismaying—that it is difficult to discern whether rural America has suffered more during periods of governmental neglect or during periods of active governmental involvement.

Unfortunately, big business has not compensated for the deterimental impacts of errant public policies and programs. Much more consistency has been evident in the way the major, urban-based corporate entities have behaved toward rural areas—but consistency of this sort can hardly be regarded as a virtue from the perspective of ordinary rural citizens.

Outside corporations have long held a very positive view of rural America's resources and have made every effort to tap those resources as fully as possible. First, of course, there were (and are) the natural resources and physical wealth with which our countryside has been endowed. Later, the urban industrial sector came to rely upon the continuing stream of rural migrants to the cities to bring their work ethic and low expectations to the burgeoning factories. More recently, the large scale manufacturing companies relying on branch plants embraced rural communities affording them the benefits of cheap (usually nonunion) labor, low operating costs, and a variety of tax breaks and subsidies.

Unlike the deficit model popular among academics and some governmental officials, corporate leaders focused on what rural America *had*—not what it lacked. Needless to say, their interest was in getting as much as they could from their rural operations while spending as little as they could in the process. In particular, outside corporations and absentee owners normally worked from what might be called an exploitation model. They usually had no intrinsic interest in, or commitment to, the rural communities in which they conducted their business. After all, this group of owners rarely lived in these places themselves or had any personal stake in the community's long range future. They stayed while it was in their financial interest to do so and then summarily abandoned these same locales when a better deal could be found elsewhere.

Viewing their rural employees as hard-working, but essentially second-class, hicks made it easier to depersonalize them and to justify treating them and their communities in such a cavalier fashion. Rural political invisibility, coupled with the lack of effective advocacy, and organizing among rural workers made it easy to implement this exploitation model over and over again across the country.

THE CONSEQUENCES FOR RURAL DEVELOPMENT

The common thread in the attitudes held by both the public and the private sectors toward rural citizens is one of *disenfranchisement* (not in the narrow sense of voting, but rather in terms of the distribution of our society's goods, services and protections). If one subscribed to the bucolic myth, rural people had no need for the entitlements, amenities and opportunities routinely available to metropolitan residents. Conversely, if one adopted the bubonic stereotype, rural people neither understood what they needed nor did they have the capacity to make informed judgments about their individual or collective futures. The essential point is that, in either case, societal attitudes rationalized treating rural people as something other than full and equal partners in the decisionmaking about—and the distribution of—America's resources and opportunities.

As a direct consequence of this set of attitudes, the history of rural development in America is simultaneously a stunning success story and a tragic tale. Both versions are true. The difference can be found in how rural development is conceived and measured.

Since World War II, rural development specialists in universities, government agencies, and the private sector have emphasized five fundamental strategies. These have formed the basis of the prevailing rural development policies, programs, publications and investment decisions across America. Each has had its champions and its foes. Each has had areas of the country and periods of time in which it has been more popular than the other alternatives. Today as much as ever, these five strategies define what we, as a Nation, mean by the term "rural development."

The five strategies to which I refer are:

1. *Infrastructure Development*—including construction of roads and highways, access to electricity and telephones, development of water and sewer systems, and the creation of industrial parks in the countryside.
2. *Agribusiness*—including an increasing emphasis on large-scale, capital-intensive, chemically-dependent farming, corporate ownership, and vertical integration of the entire industry.
3. *Industrial Recruitment*—including the attempts to attract branch plants of traditional manufacturing firms and defense contractors, as well as research and development organizations, to rural areas.
4. *Natural Resource Extraction and Processing*—including the effort to modernize the mining, oil and natural gas, fishing and the timber/paper industries across the U.S. in order to better compete in world markets and survive international competition for domestic markets.
5. *Tourism and Recreation*—including the creation of second home and retirement communities, vacation and resort areas, and amusement parks.

In terms of what was intended to be accomplished, the proponents and participants in each of these five rural development thrusts have ample reasons to boast. There are a multitude of success stories that can be told with great pride. Because of these efforts, the extraordinary physical endowments of rural America have been translated into a continuing source of wealth that is admired and envied throughout much of the world. Rural America has long been, and remains today, the wellspring of our nation's economic productivity and prosperity.

Nevertheless, the record is not an unblemished one. In part, this is a reference to all the unintended consequences of implementing these five rural development strategies. Each has had a down side story that has been told in public only rarely and reluctantly. From pollution of the natural environment to the displacement of millions of family farmers and farm workers, every success has been purchased at a significant price. Indeed, seen in a different light, America's rural development begins to resemble the old joke about the operation being a success—even though the patient died.

The major contradiction—and abiding tragedy—of America's rural development is that most of the pain, but far too little of the *pleasure, has accrued to nonelite indigenous rural residents.* Over and over again, rural people and their communities have been forced to pay the price of "progress" and "economic changes and adjustments." And yet, ordinary rural citizens have rarely been the primary beneficiaries of the programs carried out in their name and on their behalf.

A host of corporations have made fortunes year in and year out from rural labor and resources—at the same time that a disproportionately high number of rural inhabitants struggle to make it on poverty (or near poverty) level incomes. Government officials, academics and private consultants continue to draw a steady salary and advance in their careers, even if the sector of rural society they "monitor", "study" and "advise" declines dramatically or folds completely—but the rural "guinea pigs" at the end of our Nation's policy pipeline enjoy no such protection from the consequences of their own (or their "public servant's") actions. As one Appalachian miner so eloquently summed it up: "We're sitting on a gold mine and still starving to death".

This terrible contradiction within our rural development strategies ought to haunt us, but it is hardly ever even acknowledged. Both the persistence of this contradiction and the extent to which it remains a skeleton in our national closet can be attributed largely to the attitudes described earlier. Put simply, our distorted stereotypes about rural people and rural life have contributed to the creation of a distorted set of rural development policies and priorities. By believing that receiving leftovers from the nation's economic pie was "good enough" or "inevitable" for rural folks—and by socializing rural people to believe these same things about themselves—prevailing societal attitudes have undermined the implementation of more humane, fair and effective rural development.

The most important missing element in our rural development strategies is any serious respect for the integrity and intrinsic worth of rural people and rural communities. This is not entirely surprising, nor is this phenomenon exclusively a rural one. Our society as a whole puts the pursuit of profit and power ahead of the needs of "ordinary" people. However, in the rural context, it has lead to the rather bizarre situation in which "development" is most often done *to* rural communities rather than done *by* them—as well as one in which the lion's share of the benefits are gained by people other than the local indigenous (or even resident) population of the community being "developed."

ESCAPING FROM THE TRAP

The contradictions and distortions endemic to our current rural development strategies are neither inevitable nor intractable. If we so choose as a society, we *can* have a style of rural development that not only allows us to efficiently tap the abiding economic potential of our countryside, but also to do so in a manner that more democratically shares the decision-making powers and more equitably distributes the rewards.

Just as the fundamental problem with rural development is attitudinal, so too, the solution is a human rather than a technical one. There *is* an antidote to the sense of powerlessness, futility and dependence engendered by an exploitative private sector and a public sector that seems to specialize in providing disabling help. The secret is to focus on the human side of rural development—and to being with the conviction that the only rural development worthy of the name is the kind that places the well-being of rural people and the quality of rural life above narrower calculations of corporate profit and political empire building.

There are three keys to unlocking genuine rural development. *These keys are the three "E"s: empowerment, education, and entrepreneurship.* Each will be discussed briefly in turn.

Empowerment in this context refers to the willingness and ability of rural people to more fully take charge of the development process. It is a truism that real power is never given away, but rather *taken.* Thus no one can empower rural people to control the development of their own communities. True empowerment can neither be legislated, nor conferred through the governmental process. This fact makes empowerment a much maligned concept in official circles, where little credence is given to anything beyond that which government can itself distribute and control.

Even so, empowerment is the *sine qua non* of genuine rural development. There is no guarantee, of course, that ordinary rural people will make "better" decisions or wiser judgments than those now made both within and outside government. That is not the point. Since our history is very clear about the reality that if there is a penalty or a price to be paid for mistakes made in the course of implementing any rural development plan, it is the local residents that will bear this burden, it is no more than simple justice that their's should the prevailing voice in the decisions about what plans to implement. Harold Lasky's maxim that in a democracy, "Self-government is always better than good government" seems particularly relevant here.

Whether rural people around the United States will take it upon themselves to effectively organize and assert their right to be full and equal partners in determining the future of their own communities remains an open question. What is certain is that their failure to empower themselves to control the rural development process guarantees they will continue to "suck hind teat" in the distribution of its benefits.

Although empowerment cannot be given, it can be encouraged and nurtured. Education (broadly defined) has the potential to be the mechanism through which rural empowerment in the development process is fostered. Indeed, education could be the decisive factor in turning around both the counterproductive attitudes our society (including rural people themselves) has toward rural development and the distorted priorities we've come to accept as normal.

In order for education to accomplish this task, it must go well beyond its current repertoire of activities and functions. All too often, rural education has been limited to the provision of "basic skills" and the preparation of ever-better job applicants (even though good jobs are few and far between in rural areas, and urban labor markets are increasingly saturated). Worse, it has served as one of the agencies socializing rural people (young and old) toward passivity, docility, low aspirations, low self-esteem, and fatalism in relation to the future of their communities, i.e., the very traits that must be overcome if rural empowerment is to be achieved.

Fortunately, there are existing and successful models of educational initiatives and institutions that have been promoting rural empowerment. These range from rural school-based enterprises in Georgia and North Carolina to the Foxfire program to the Highlander Center to the University of Alaska's College of Human and Rural Development to the network of rural institutions affiliated with the Association for Community-Based Education. None of these has all the answers, but each has pioneered valuable new ways for education to do more than pay lip-service to the most pressing needs of their rural learners. In fact, efforts such as these demonstrate *why education should be (and how it can be) one of our nation's top rural development priorities.*

The third, and final, key to rural development worthy of the name is *entrepreneurship.* Under this umbrella are self-employed individuals, inventors, cottage industries, worker-owned enterprises, cooperatives, community development corporations, family farmers, and the myriad of small owner-operated businesses scattered throughout rural America. Although often overlooked or viewed with disdain by big-time economists, planners, and development officials, this sector of the rural economy already plays a crucial role in the sustenance and vitality of nonmetropolitan life—and could play an even greater role in the future.

One of the unexpected blessings of rural life today is that the same communities that offer next to nothing in terms of good job opportunities usually have a variety of good untapped *economic* opportunities. Obviously, this fact bodes well for the continued survival and economic health of our countryside—if we are able to accurately identify these opportunities and competently bring them to fruition.

However, two challenges must be surmounted. The first is that rural people, in general, and rural women and minorities, in particular, are very rarely given the encouragement, training and technical assistance they require to become successful entrepreneurs of any type. The second challenge is that the prime economic opportunities in a given rural area are often snapped up and exploited by outside investors and absentee owners. Again, training and assistance in analyzing the economic potential of one's own community is indispensable—but so is effective access to capital. Any sensible state or national campaign for genuine rural development would address these, and other related issues, by making indigenous entrepreneurship (along with education) the new top priorities for America's rural development throughout the remainder of this century.

CONCLUSIONS

My *hope* is that we, as a Nation, will choose to learn from the weaknesses and contradictions emerging from our years of experience with the five traditional rural development thrusts. My further hope is that we will take these hard-won lessons and use them as the springboard for redoubling our efforts to create and sustain more democratic decision-making and policy-making processes for rural development—as well as for launching a new era in which the human side of rural development is given priority and the three "E"s (empowerment, education, and entrepreneurship) are accorded their proper place as the cornerstones of all our activities.

My *fear*, however, is that the rural development process will bypass "ordinary" rural people, reject the potential for fostering rural empowerment and degenerate into an economic version of the old television show "Queen for a Day." Surely you remember this popular TV show in which a group of women would come on stage and tell tales of woe that were absolutely heart-rending: their husbands had just died and left them penniless, they had lost their jobs and their children were in the hospital or their uninsured homes had burned down destroying everything they owned. As you remember, the woman with the saddest story "won!" That was bizarre enough. But, even more bizarre was what this woman would receive for winning—usually something from the Spiegel catalog and a week's vacation in Acapulco. The "Queen for a Day" never won a new home, a new job, or payment of all the children's medical bills. Instead, she received a new toaster and a trip out of town.

The relevant lesson can be found in the gap between what was wrong and what was done in response. The "solution" had very little to do with the very real and serious problems these women faced. So too, my fear is that the private sector and the public sector both will do very little that is directly and powerfully connected to what is *actually* wrong in our Nation's small towns, villages and open countryside. If the choice is made in Washington, D.C., in our state capitals and in our corporate boardrooms to continue business as usual and simply do "more of the same," then we will have thrown away the chance to do better than playing "Queen for a Day" with the lives and futures of rural Americans nationwide.

We *can* do better. We can—indeed must—at long last put aside all our disfunctional myths, stereotypes and assumptions about rural people and rural life. The time has come to demand, design and deliver "rural development" that is truly worthy of the name.

RURAL INSTITUTIONS FOR THE FUTURE

By Emery N. Castle [*]

It is ironic that a Nation that has been among the most progressive in the world—if not the most progressive—in the development and settlement of its vast acreages should now find itself with major rural problems and with inadequate institutions to provide solutions. We need to know how we came to be where we are. If we understand how the present situation differs from the one that gave rise to the institutions we now have, we can make the changes necessary to meet current needs.

Jefferson's America was agrarian *and* rural. Food production was highly decentralized and was a major activity in all of the colonies. But farming was by no means the sole rural activity and there was much rural business that was not farming. But that which was not farming was either closely related to farming or was carried out by people who knew a great deal about agriculture and food production.

Jefferson's idea of a Nation of small farmers and small businesses was admirably suited to the needs of the young Nation. Agriculture needed to be encouraged if the Nation was to make the best use of the resources that it had and was to acquire. The Homestead Act in 1862 was an early government program designed to encourage settlement and agriculture and was a logical extension of Jefferson's philosophy. But the Homestead Act was not an isolated event. Social investment in rural roads, and later in mail service to remote areas were efforts to get people on the land for the purpose of producing agricultural crops.

By the time of the Civil War, the human as well as the natural resources of rural areas had attracted attention. The establishment of the Land Grant Colleges was designed to serve the special needs of the people in rural areas. But it is important to remember that the Act to establish the Land Grants referred to agriculture and *the mechanic arts*. It was recognized that the rural areas encompassed a variety of economic activity related to but which was not exclusively farming.

In the years between the Civil War and World War I, the urban areas grew rapidly and business cycle problems afflicted both rural and urban areas. The large size of some businesses—for example, railroads and financial institutions—created a great deal of concern in rural areas about big business. Questions began to be asked as to whether agriculture and the rural areas were being served adequately by the private sector. But we still believed in land settlement as a means of creating opportunity; the Reclamation Act of 1902 was one manifestation of this belief.

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The depression years of the 1930's brought about a consolidation of federal legislation that has shaped rural institutions to the present. While the depression of the 1930's paralyzed the entire Nation, agriculture had suffered during the 1920's as well, when the Nation generally had enjoyed prosperity. Farmers were indeed in difficult straits during the depression years and it is not surprising that a Nation that engaged in great social reform would give particular attention to agriculture and rural areas given the early agrarian philosophy and orientation of the Nation.

There were several reasons government intervention was believed necessary to provide equity and opportunity for those living in rural areas:

1. Unequal Bargaining Power

A traditional belief of the rural populist has been that large business has an advantage in economic exchange with the farmer and small business. Financial institutions, the railroads, the utilities, the large manufacturers, and oil companies were targets of these charges of unfairness. Farm credit legislation, rural electrification programs, and farm commodity programs are examples of responses to the perceived unfairness.

2. Natural Resources Development and Conservation

The government also has intervened with natural resource related programs for rural areas. The creation of economic opportunity in rural areas and the stimulation of regional economic growth were the principal motivations for the Reclamation Act. Conservation programs have had at least two objectives. One has been to conserve resources for future generations while another has been to remove resources from production as a consequence of depressed demand for agricultural products and thereby increase income for farmers.

3. Human Resource Programs

Schooling and education always have been a high priority group activity in the rural areas of the United States. From the early establishment of the one-room country school to the creation of the Land Grant Colleges, there was underlying concern with the growth and development of rural people. Extension programs, research, and classroom education all had the effect of improving the capacity of people to deal with change by expanding their knowledge base and enhancing performance.

Over time rural institutions have suffered from obsolescence in varying degrees. The rural community has changed enormously as well as the society of which it is a part. Two developments need to be identified because they are crucial to understanding the current performance of rural institutions. One pertains to the role of agriculture in development; the other concerns the confusion of agrarian and rural as concepts for the evaluation and guidance of rural institutions.

AGRICULTURE IN DEVELOPMENT

It is commonplace to say that American agriculture is the envy of the world in the efficiency with which it transforms human and natural resources into food and fiber products. The basis of this enormous efficiency is a rapidly changing and evolving knowledge base which constantly brings new production relationships into existence. The other side of the efficiency coin is that agriculture has been a declining cost industry over the long sweep of American history. Neither our agricultural income support policies nor our rural institutions have faced this fundamental condition honestly or directly. Income and price support policies have been based on the assumption that production conditions are such that fixing loan rates or retiring land would bring about more than a temporary equilibrium. But it is inevitable that more and more farmers will become obsolete over time if agriculture is a declining cost industry. The government can maintain the income of an increasing number of obsolete farmers only by larger and larger outlays of government payments. Rural communities, to the extent they are dependent on the numbers of farmers, also will be affected by this same decline. The existence of a declining cost industry has implication with respect to other programs and policies as well. Credit, natural and human resource programs have the effect of making more resources available to agriculture than would otherwise be the case. One result of these programs has been to make the aggregate adjustment problem larger than would have been the case in the absence of the program. In total, farmers will be better off with fewer rather than more inputs even though it is in the interest of the individual farmer to acquire more resources and assets.

The other counterproductive feature of these programs pertains to the opportunities they attempt to create in agriculture. Credit programs that help farmers become established in agriculture, reclamation programs which create additional farming units, and courses of instruction for beginning farmers may create resource traps. That is, resources are attracted into an industry that, in the aggregate, is giving up resources to the larger economy. Unless these new resources are used more efficiently than those already in the industry, the perceived "opportunity" becomes a snare and a delusion. For example, a colleague and I found that farm businesses on a government irrigation project in Oregon failed at roughly twice the rate of farm failures in the remainder of the State. If the programs are successful in creating "opportunities" for the new entrants, resources already in the industry will face greater competition and lower returns.

THE CONFUSION OF RURAL AND AGRARIAN

Many of the early rural institutions of this Nation recognized that the rural community had a great deal of activity in addition to farming and agriculture. As times have changed, so, too, have the needs of rural residents. Much of agriculture has become a highly sophisticated industry. It has highly specialized needs for finance, human, and natural resources. But as agriculture and farming have become more sophisticated, the remainder of the rural community has become increasingly diverse. People on farms are now less than 7 percent of the total nonmetropolitan population, rural residents derive only about 5 percent of their income from farming, and fully 70 percent of farm families obtain more than half their income from off-farm employment. Data from the 1982 Census of Agriculture show that off-farm income amounted to $1.2 billion; this was more than twice the probable net income from the largest farm enterprise—cattle and calves.

Thus, many institutions created to serve rural America are on the horns of a dilemma. On the one hand, if they are to serve agriculture, they must recognize that it is a highly technical and sophisticated industry. Our highly competitive and efficient farmers can be helped in their businesses only by those who possess great competence with contemporary knowledge of commercial agriculture. But others in the rural community, and they are in the great majority, have different needs. It places great strain on many rural institutions, as for example, the Extension Service of Land Grant universities, to serve these diverse groups.

Many newly created rural institutions fail to address contemporary problems in rural communities and in agriculture. Land use laws and regulations that tend to hold land in agriculture add to agriculture's productive capacity and lower returns in agriculture. Water laws which create barriers to the transfer of water from agriculture may have the same effect.

POLICIES FOR RURAL AMERICA

It is beyond the scope of a short essay to set forth a program of institutional change for rural America. Yet certain reforms are obviously needed. Some of these are:

1. Modification of government programs that have the effect of pumping additional inputs into the agricultural industry such as land reclamation and credit programs. There is little justification for reclaiming additional land for agricultural purposes and government assistance or encouragement to this end should be discontinued.

Credit programs are a special case and care should be exercised to distinguish between these problems associated with the current crisis and the provision of subsidized credit for agriculture on a continuing basis. The current crisis is the result of several factors including government policies which encouraged agricultural expansion, as well as managed capital markets which held interest rates below those necessary to reflect inflation rates. Who bears the burden of existing debt in agriculture is a distributional problem and does not necessarily affect the amount of resources that will be drawn into agriculture. Should the government elect to remain in agricultural credit markets over time, they should not make more assets available to agriculture than would be provided by a competitive credit market. But, as noted, the current crisis involves who is to bear the burden of existing debt. Government "bail outs" are not limited to agriculture; our government has developed special programs in recent years for large industries and urban financial institutions that have been in economic trouble.

2. Rural natural resource policies are badly in need of an overhaul. Generally speaking, constraints on the markets for land and

water that have the effect of preventing the transfer of these resources out of agriculture should be avoided. There is little evidence that the cost of agricultural products would rise as a result of removing such restrictions, but there is every reason to believe that farmers who can transfer such resources to urban or nonagricultural uses would be better off. The extent to which farmers have responded to off-farm employment opportunities indicates that they are alert to nonfarm opportunities to market their excess labor resources. We are fortunate there are few constraints on their taking advantage of opportunities for the sale of their excess labor.

Markets, of course, will not reflect adequately the values of all nonfarm uses of agricultural land. Land capable of yielding significant environmental values such as wildlife may not be used for such purposes unless appropriate economic incentives exist. To the extent these environmental values are public in nature, public expenditures are justified to bring them into existence.

3. A new mandate should be established for certain existing rural institutions. Many are trying very hard to adjust to the forces of change that come upon them and some have been very successful in doing so. The flexibility of some of the Cooperative Extension Services in providing assistance to farmers in economic distress provides a recent example. No institution has been more affected by the change described in this paper than the Schools and Colleges of Agriculture associated with Land Grant Institutions. The difficulties affecting many rural institutions can be illustrated by some of the problems and choices these institutions face.

Few would question that the Schools and Colleges of Agriculture at the Land Grants have had a most beneficial effect on American agriculture. Many also have assisted developing countries in improving their food supply. But rural people have many problems other than those related to the production of food and fiber. Issues of environmental quality, rural land use, and rural employment provide examples. To what extent should the Land Grants—Schools and Colleges of Agriculture in particular—have the broad concerns of the rural community as their mission or to what extent should they concentrate where they obviously have great expertise—in commercial agriculture?

As one would expect, these institutions reflect the politics of their environment quite accurately. Some have much broader agendas than others because the number and strength of interest groups vary from state to state. But not all of the variation can be explained so easily. Some have the freedom to choose and their programs reflect this fact. Nevertheless, one fact is clear, much greater emphasis is placed on agriculture than on rural communities in Land Grant College programs generally. To the extent rural community programs do exist, they usually are poorly financed and often are the result of the particular interests of the staff rather than deliberate program development.

A reaffirmation of the original broad mandate of the Land Grants would be appropriate. As important as the current "farm crisis" is, the "farm problem" is not the central problem of many rural communities. Rural employment, land use, water quality, and population change are all issues of greater importance to many rural areas than are those of commercial agriculture. Even in those places where commercial agriculture remains the dominant economic activity, trouble on the farm has caused change in the community. Certainly we know far more about and have many more educational programs concerning farm adjustments than community change. Because Land Grant institutions are supported by all levels of government, a statement at the national level as to the purpose of these institutions would serve a most useful purpose. It would provide encouragement to those in these institutions that wish to serve a broader mission and it would create new bonds among Federal, State, and local interests.

In summary, our rural institutions are remarkably faithful to the problems they were created to address but society has changed and so have the problems. Rural areas will not be well served unless we change dramatically the way we think about rural communities and their problems. At a minimum, we need to better understand the basic nature of agriculture in development and have a better perception of the needs of those in the rural community who no longer have close ties to agriculture.

ECONOMIC DEVELOPMENT IN RURAL AMERICA: SITUATIONS, PROSPECTS, AND POLICIES

By Paul R. Eberts *

A basic premise since our Nation's founding has been that "all men are created equal." This premise remains a strong and basic tenet of our governmental institutions at all levels—local, State, and National.

A key issue for governments based on democracy, justice, "liberty, equality, and fraternity" (the last perhaps better translated as "caring for one another") is to monitor what is happening among their peoples in order to assure that these "five great values" are indeed being upheld throughout their domains.

In particular, it is important to assess the Nation's equality by examining the extent to which indicators show changes in various types of inequalities both within and between key population segments. It is well-known that the five great values underlying our form of government are all interrelated. But social science analyses are showing—increasingly I believe—that equality of conditions among people undergirds the other four. In effect, equality of conditions among people relates to (at least in a statistical sense) equality of access to the governmental institutions which represent the cores of democracy, liberty, justice, and caring (fraternity). When people are more equal in their conditions, they participate more, compete more, and develop more (cf. among others, Tocqueville, 1836; Sismondo and Beaver, 1974; Lindblom, 1977; Rubinson and Quinlan, 1977; Foley, 1979; Young, 1980; Jacobs, 1982; Young, Rolleston, and Geisler, 1984).

Governments committed to these five great values should surely wish to discover where inequalities, injustices, lack of democracy, abrogation of liberty, and lack of caring exist. Only by knowing the exact conditions of indicators of these important values can policymakers formulate strategies effective enough to assure that these values—and commitment to them—will increase over time (Robinson and Sismondo, 1979; Eberts and Sismondo, 1978; Eberts, 1984c). It is in such a context that this report is written.

SOME FACTS ABOUT INEQUALITIES IN RURAL AMERICA

The specific concern of this report is the extent to which inequalities exist between rural and nonrural localities in our modern postindustrial society, and especially whether the inequalities are increasing or declining.

Unfortunately, on a great many indicators, inequalities are persistently growing between rural and metropolitan America. I have

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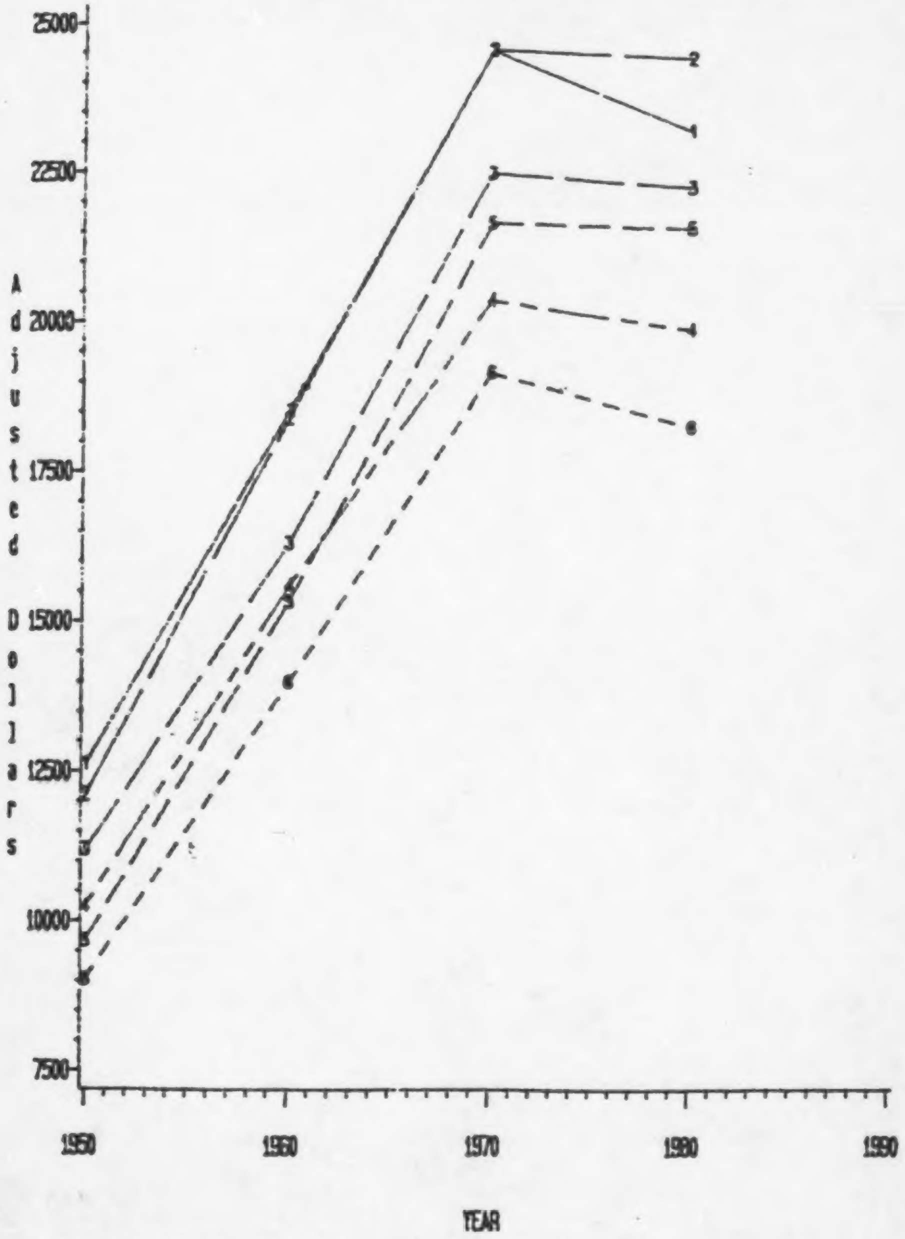
documented this situation in rural New York State for the New York State Legislative Commission (Eberts, 1984c). Others have demonstrated certain aspects of this situation for other parts of the U.S. and, on some indicators, for the nation as a whole (Deavers and Brown, 1979; Howes and Markusen, 1981; Hirschman and Blankenship, 1981; Willets, Bealer, and Crider, 1982). And, insofar as New York State represents one of the more metropolitan (and wealthier) states, the condition is probably occurring to an even greater extent in other states.

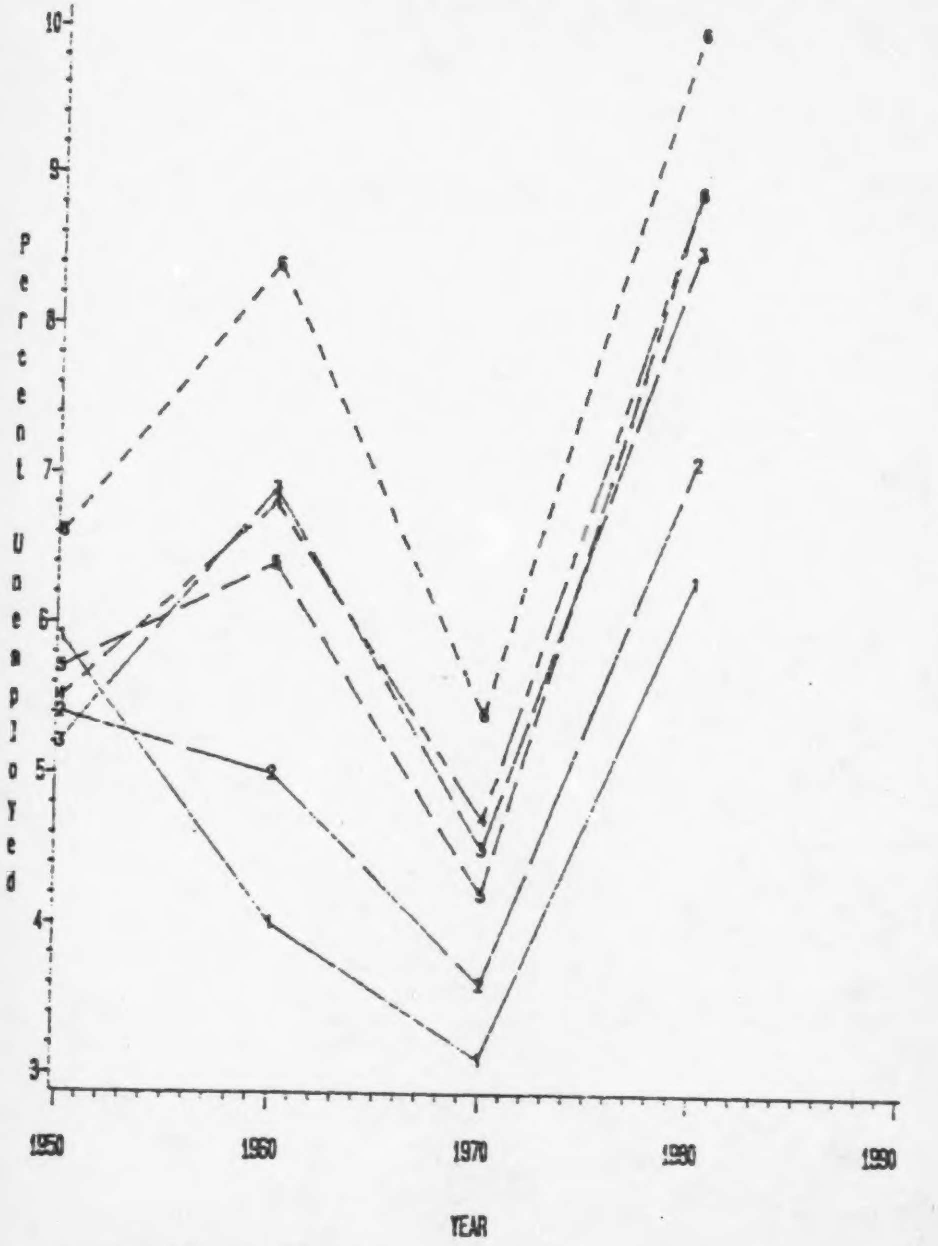
Differences—inequalities—persist both within and between the various population segments with regard to education, income, well-being, unemployment, even institutional access and participation, and in most of the key areas the differences are increasing (Eberts, 1984c, especially Figures 26 to 36). As seen in Figures 1 and 2, reproduced here, these differences work to the detriment of people in the more rural localities. (In Figures 1 and 2 the trend line labeled "1" is based on trends in the New York City SMSA counties, and the one labeled "6" represents the "most rural" NYS counties; the other lines show trends for counties falling between these two extremes of metropolitan and rural.) The graphs show clearly that rural counties (labeled "6") have higher unemployment rates and lower inflation-adjusted family incomes than the more metropolitan counties, and have fallen further behind during the last decade. Graphs on other indicators show similar trends.

Figure 1.—*Median Family Income Adjusted to 1980 Dollars by the Consumer Price Index in County Types 1–6, New York State, 1950–1980*



Source: Eberts, 1984c, (Figure 27).

FIGURE 2.—*Percentage of Labor Force Unemployed in County Types 1-6, New York State, 1950–1980*



Source: Eberts, 1984c, (Figure 29).

Table 1 offers a summary of the data for all 36 indicators examined in the report. In general, the data show that rural areas are looking more like metropolitan areas as far as their demographics and economies are concerned—indicators 1 through 25—but are falling behind on most of the socioeconomic attainment and well-being indicators in items 26 through 36. It is, of course, on the latter indicators that individual people experience increasing levels and feelings of relative deprivation. As economies in their localities change toward more urban and metropolitan structures, rural people in New York—-and probably elsewhere as well—seem to fall further behind on matters of their personal and family well-being.

TABLE 1.—SUMMARY OF 36 TRENDS IN RURAL COUNTIES AND CHANGES IN GAPS BETWEEN RURAL AND METROPOLITAN COUNTIES, NEW YORK STATE, 1950 TO 1980 *

Figure	Rural trends		Gaps between rural and metropolitan	
	1950-80	1970-80	1950-80	1970-80
I. Population:				
1. Population size	+	+	+	—
2. Population density	+	+	+	—
3. Occupied housing units	+	+	+	+
4. Adults 21 to 65 (potential labor force)	+	+	+	—
5. Percent potential labor force (adults 21 to 65)	—	+	—	—
6. Percent 65+	+	+	—	—
7. Percent nonwhite	+	+	+	+
II. Economy:				
8. No. employed (work force)	+	+	+	—
9. Work force as percentage of potential labor force	+	+	+	+
10. Percent females in work force	+	+	—	—
11. Percent in tertiary industries	+	+	—	—
12. Percent in retail-wholesale	+	+	—	—
13. Percent in public administration	+	+	—	—
14. Percent in education	+	+	+	+
15. Percent in health	+	+	+	+
16. Percent in finance, insurance, real estate	+	+	+	+
17. Percent managers, professionals	+	+	—	
18. Percent in secondary industries	—	—	—	—
19. No. manufacturing units 20+ employees	—	—	—	—
20. No. manufacturing units 100+ employees	—	—	—	—
21. Percent in primary industries	—	—	—	—
22. Percent land in agriculture	—	—	—	—
23. No. farms	—	—	—	—
24. Total acres harvested	—	+	—	+
25. Total market value agricultural products (adjusted)	+	+	+	+
III. Socioeconomic attainment:				
26. Median family income	+	+	+	+
27. Adjusted median family income	+	—	+	+
28. Percent college education	+	+	+	+
29. Percent unemployed	+	+	+	+
30. Percent in poverty	—	+	—	—
31. Percent in affluence	+	+	—	+
IV. Personal and social well-being:				
32. Percent indoor plumbing	+	+	—	—
33. Percent infant morality	—	—	+	+
. Suicide rates	—	+	—	—
35. Homicide rates	+	+	+	+
36. Percent marital disruptions	+	+	+	+

* A plus (+) sign means the trend or gap is increasing between one or both of the metropolitan county types and the most different of the rural county types; a minus (−) sign indicates the trend or gap is decreasing.

Source: Figures 1 to 36 and Table 8 (Eberts, 1984c).

The most disturbing feature of these facts is that such differences are increasing rather than declining over time. In other words, these levels of "differences" themselves have become virtually institutionalized to cause, as well as to be effects of, persistent inequalities between the population segments. The causation cycle is undoubtedly quite complex. It contains both multiple and circular conditions. Multiple social factors create the inequalities and, because they "loop back" or "feed back" on each other, they also create the persistency of the inequalities.

The likely end-result of these causation loops is that the multiple social factors, left on their own, will apparently not reduce the differences over time, nor affect the differences in a causally neutral sense. The differences on their own, so the study shows, will only increase the inequalities into the twenty-first century (Eberts, 1984c).

Of course, a similar condition of persistent and increasing inequality on a variety of indicators appears to be occurring in at least one other significant population segment—the inner core (what used to be called the ghettoes) of cities—as well as in the most rural areas of the Nation. Both sets of conditions call for additional monitoring. [1]

To make the targeting of policy responses more precise, routine definitive national studies are needed to identify clearly "the conditions of persistent and increasing inequality on a variety of indicators" in different locations and types of places throughout the United States. The monitoring required to know the true status of equality in the United States ought to be as routine as the decennial census. Certainly the report, *Social Indicators III,* by Denis Johnston and Murray S. Weitzman (1980) of the Census Bureau, is a major step towards institutionalizing such a study. Its promised sequel—due in 1983—has been delayed several years, however, and may become a complete casualty of the federal government's heavy austerity-budget ax.

FIRST POLICY SUGGESTION

The U.S. Congress should underwrite continual federal monitoring of social equality, and at least biennial studies of—and reports on—the data. The purpose of the monitoring would be to determine the conditions of inequality, whether these conditions are increasing or decreasing, what their key causal connections are, and what policies might be put in place to deal with any increasing inequalities (see Eberts, 1982).

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[1] Most analysts of rural localities use counties as the units of analysis (cf. Brown and Wardwell, 1980), and divide all counties into a number of types. A common typology divides counties into several basic types, for example:

1. Metropolitan-core counties (which contain a metropolitan central city), often divided between "central city" and "rest of the county";
2. Metropolitan-ring counties (those adjacent to metropolitan counties, which send a high proportion of their work force—e.g., 20+ percent—to the metropolitan county for employment);
3. Metropolitan-suburban counties (adjacent to a metropolitan county, but which do not send the high proportions of their work force to the metropolitan county for employment);
4. Urban counties (which have large central cities in them—e.g., in excess of 10,000 people, but which do not reach metropolitan status in size); and
5. Rural counties, which have none of the above characteristics (often because they are more mountainous than the others).

Often each of these county types is further subdivided, e.g., on the basis of their population size or density (Deavers and Brown, 1979).

Almost every metropolitan county also contains localities within it which fall in categories similar to the types described above. Even in metropolitan counties, people who live in the more rural parts have comparatively similar characteristics—e.g., of relative deprivation regarding economic development—to those who live in the most rural counties. Still, people who live in the rural parts of metropolitan counties also have greater access to metropolitan services and employment than those who live in the rural parts of rural counties.

The most rural counties are composed largely of forests and hillsides, with only a few farms. Life chances of those who live in rural parts of rural counties—who might well be called the rural-rural people—remain considerably below those of their metropolitan-rural counterparts, and, in general, have found themselves in conditions of falling further behind. These rural-rural people—many of whom are often misleadingly glamorized as "rugged individualists" in the popular media—in reality, often do not even know the concept of "safety net," much less have easy access to it. They are clearly among the worst off in our country; their life chances in an affluent society can and should be enhanced.

SOME FACTS ABOUT ECONOMIC DEVELOPMENT AND EQUALITY

Taken together, many studies and reports indicate strongly that persistent and increasing inequalities exist in both the metropolitan inner core and the most rural peripheral parts of the nation. The inequalities of the inner core of U.S. cities are reasonably well known due to the apparent impenetrability of their persistence as well ~~as to the~~ media attention they receive.

Less well known but also persistent and increasing are the inequalities in rural areas. Recent media attention on farm foreclosures has revealed the problems to some extent, but the conditions seem more extensive, more impervious, and more pervasive in their effects than the media reports suggest (Gortmaker, 1979). Major trends were summarized in the study for the New York State Legislative Commission (cf. also Table 8 above):

> Of the indicators showing increasing gaps, the five on which rural counties lag in the most negative sense are: the two family income indicators [median family income, and median family income adjusted for inflation], percent college educated, percent unemployed, and percent affluent. . . .
>
> In addition, even though the gaps are closing with metropolitan county types, three indicators—suicides, homicides, and marital disruptions—show increasing trends. . . . Moreover, the losses in secondary industries in terms of employment and number of larger plants moving out, and the losses in employment in primary industries, are hardly comforting in the state as a whole, and especially in the rural counties. Likewise, slower growth in certain aspects of the tertiary sector in rural localities, particularly in finance, insurance, and real estate, can leave rural people relatively worse off.
>
> These data point to a major conclusion, namely, that rural people experienced certain forms of relative deprivation between 1950 and 1980, affecting how much rural people earned, how they behaved, and probably what they felt. It is also probable, by all appearances, that these trends both have continued into the present and will continue into the twenty-first century. (Eberts, 1984c, p. 105).

These are the facts in rural New York State. Again, it must be remembered that New York is one of the more metropolitan and wealthier states in the union. It is one of those, therefore, whose rural areas are under comparatively greater urban influences. Hence rural areas in New York are probably experiencing more of the types of growth common to urban and suburban areas, whose growth and development, in general, has been greater than in inner cores of metropolitan areas or in the most rural localities

(McGranahan, 1980; Bloomquist and Summers, 1982; Meyer, 1984). It is also probable that rural areas in other states are under similar, and in many cases more devastating, influences compared to those in New York. Again, extensive and systematic evidence is lacking, but studies such as those cited above provide strong documentation for this conclusion.

Also important to consider are the effects of America's most recent economic growth on these conditions. My assessment is that, again compared to metropolitan-ring areas, economic growth has bypassed rural America in terms of closing its gap with urban metropolitan America. Probably the single most important tenet underlying recent federal decisions—and one that has driven budget cuts, as well as program cuts—is that market forces should be allowed to operate more freely in order to attain a greater overall economic growth in the Nation as a whole. Market forces on their own, it is argued, will allocate resources more efficiently so that these resources in effect "seek" localities with competitive advantage, resulting in a more even distribution in a society (Glasson, 1974; Richardson, 1973; Holland, 1976). Thus rural areas, with greater poverty and lower wage rates, so the argument goes, should be attractive for new plant locations because of the relatively depressed conditions there. New plants would, in turn, raise the rural areas' wage levels, reduce their poverty and inequalities, and contribute to their overall development. In this view, decisions which interfere with the market, such as those constraining investments into less productive areas, would also result in inefficient use of resources and investments.

An important issue on which data can be brought to bear is the extent to which the market-force theory is actually working as it is predicted to work (Averitt, 1979). The best data at present remain those based on unemployment rates (although data on gains in relative numbers of jobs, if available, probably would be more adequate). Again, using New York as the bellwether state, unemployment continues to be lowest in the major metropolitan areas—though not in the inner cores of these areas—while the highest unemployment rates remain in the most rural counties. This situation was not the case in 1950, but it has been the case since about the mid-1950's (Eberts, 1984c, p. 76, and above, Figure 29). Unemployment rates in rural counties consistently remain in double digits, and up to 50 percent higher than those in metropolitan counties (New York State Department of Commerce, 1986).

Thus it is unlikely that market forces alone will reduce the economic development gaps between the most rural areas and their metropolitan counterparts. In New York State, and probably in other states as well, the market-force theory does not appear to be working as predicted (cf. also Perry, 1980; Treas, 1983).

Moreover, on the basis of about 30 years' experience with low-income areas within European countries, the theory has not worked there either. Southern Italy remains poorer than the rest of the nation, and is falling further behind, especially the industrialized north. Likewise, parts of rural France and England (Wales, Scotland, and Ireland, especially) also have not experienced equal amounts of economic growth and development compared to their metropolitan counterparts (Glasson, 1974; Holland, 1976; Shonfield, 1980; O'Loughlin, 1983; Clavel, 1983).

Since 1950, however, certain poor states—particularly in the South and Southwest—have experienced economic growth to make them more on a par with wealthier states (Holland, 1976; Perry and Watkins, 1977; Hirschman and Blankenship, 1981). This happened, at least in part, because of differential heavy investment by the federal government in those areas, not because of investments driven by market forces alone. Heavy Federal investments in space and defense industries, as well as in interstate highways (Lichter and Fuguitt, 1980), have apparently aided these states and localities in them to achieve their high economic growth rates (Watkins and Perry, 1977).

In fact, localities in the South and Southwest that have benefited most from the supposed market-forces-only approach have been those surrounding the inner core of metropolitan areas, particularly those on interstate-type beltways (Perry and Watkins, 1977; Lichter and Fuguitt, 1980; Hirschman and Blankenship, 1981). These areas permit easy transportation access to local and regional markets and to more plentiful, cheaper land on which to build new land-extensive (in contrast to land-intensive or high-rise) plant facilities based on new technologies.

The general conclusion from this analysis, therefore, is that, contrary to market-force policies, more—not less—government intervention is necessary to change the situation of increasing inequalities between metropolitan-ring localities and, on the distressed side, metropolitan cores and rural communities.

TOWARD NEW POLICIES

An important question at this point is to identify policies which might close the gaps in inequalities between rural and metropolitan-ring localities. Some policies will undoubtedly be more cost-effective than others. But, as we have seen above, policies not designed to deal with the inequality gaps are tantamount to being policies which will *de facto* increase the already increasing inequalities between rural and metropolitan places.

Policies to deal with the increasing inequalities between rural and metropolitan-ring localities—some of these latter themselves being quite rural only a decade or so ago—are not easy to find. As noted above, several European countries have faced these problems for over 30 years, with little apparent success (Glasson, 1974; Holland, 1976; Shonfield, 1980; O'Loughlin, 1983). Many policies in the past have failed or have been only moderately successful, and have generally not been deemed cost-effective (Sundquist, 1969; Nathan, 1976; Treas, 1983).

Governmental policies to offer comparative advantage to presently disadvantaged localities can be divided into two types: those based on fiscal redistribution and those based on differential regulation. The first set of policies would target certain categories of the budget to certain types of localities (as occurred in the "Appalachia program"); the second would relax certain regulatory restrictions on agency rules for special categories (such as "enterprise zones," or "oil depletion allowances") or, in general, market deregulation which, as we have seen, gives differential advantage to enterprises based in metropolitan areas.

Fiscal redistributive policies have usually been more effective in producing local economic growth and equality in rural localities than differential regulatory policies (Neenan, 1977; Stanfield, 1982; Treas, 1983). This is probably because rural areas comparatively do not have the specialized expertise (and/or professionalized networks, or planning infrastructure) by which to take full advantage of differential regulations in their areas (Green and Reed, 1981; Sokolow, 1981; Christenson, 1982).[2] The redistribution alone stimulates expansion in the tertiary (service and supply) economic structure, thus helping to reduce other forms of inequalities, such as educational and political-participation inequalities (Richardson, 1973; Eberts, 1979; Jacob, 1982). In this way, income growth in a region results in more equality in the distribution of income in a region (Holland, 1976).

Still, fiscal redistribution policies by governments and differential regulatory (as opposed to market deregulation) policies can both contribute in effectively reducing inequalities between regions. Insights of input-output analysis tell us that redistribution for economic growth, with its subsequent greater equality in regions, depends upon two factors—the amounts of money being redistributed, and the way in which the money is spent (Richardson, 1972; Miernyk, 1982). Obviously, when larger amounts are transferred and redistributed, economic growth in a region will be greater. But how the money is spent—whether in support of local firms to buy from and sell to each other, hence creating larger local income multipliers (Richardson, 1972)—also determines the total amount of income growth in a region. Again, in general, greater income growth in a region is needed, in our system, to create greater equality in a region (Holland, 1976; Eberts, 1979).

In dealing with problems of inequality between localities, then, an important issue is whether government policy should be one of simple redistribution to individuals and households, or one of redistribution in a manner which offers incentives for people to work harder, longer, or "smarter," in taking advantage of local opportunities for further economic investment (which is the essence of why economic "multipliers" work). The aims of redistribution, in other words, may be to stimulate "simple" redistributive equality on the one hand, and/or to redistribute in ways which create greater incentives for more self-sustaining economic growth and better quality of local life on the other hand.

Certainly a long-term government aim regarding regional inequality is for growth in the more deprived regions to become more self-sustaining. Self-sustained growth and development are desirable both to reduce dependence on central government aid and to reduce costs to the central government (Richardson, 1973; Holland,

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[2] Moreover, rural policymakers sometimes ideologically refuse even to take advantage of opportunities offered to them, whereas their counterparts in metropolitan and metropolitan ring localities often have specialists geared to hunting such "growth machine" advantages (cf. Goodman, 1979; Molotch, 1976; Sokclow, 1981). In addition, some rural localities are dominated by single industries which do not want to assist their localities in attracting other industries for fear that new industries there would compete with them in the local low-wage labor market, and eventually raise wage-rates (Gaventa, 1980).

1976). "Simple" redistributive policies do, in fact, achieve greater equality between regions (Treas, 1983). "Incentive" redistribution policies are more difficult to design and to implement effectively but are also more desirable. Incentive policies make people feel better about themselves, take more responsibility for their own lives in achieving a better quality of life and are more conducive to implementing other forms of self-sustaining economic growth (Self, 1975).[3]

In our present economic system, economic development occurs most rapidly in or near metropolitan centers, but mostly in the rings beyond the metropolitan centers' cores (Watkins and Perry, 1977; McGranahan, 1980; Meyer, 1984). Usually, massive amounts of funds are invested in these areas by both public and private resources. Governments build highways, offices, and other installations in or near these locations, transferring and redistributing funds in the process. Banks, insurance agencies, and other loan and development institutions locate there, as well as invest there, thus transferring their funds to these locations from a variety of sources. In other words, both public and private institutions contribute to the development of metropolitan and metropolitan-ring localities in preference to rural or metropolitan-core localities (Bluestone and Harrison, 1982).

In any case, increasing investment linkages between establishments and institutions located in rural or peripheral localities and establishments and institutions in metropolitan centers is a major step in rural development. Rural localities which make these linkages—and hence receive some of the funds redistributed from the metropolitan localities—are likely to grow much faster than those not making these linkages (Perry and Watkins, 1977; Goodman, 1979; McGranahan, 1984; Meyer, 1984; Eberts and Kelly, 1985). Such linkages are thus essential for producing longer-term and more sustained economic growth.

These linkages can take a variety of forms. Certainly highways and airports represent important communication and transportation linkages (Lichter and Fuguitt, 1980). They involve massive transfers of funds, produce indirect multiplier effects and, create more efficient systems for future transfer of goods and services. But the physical placement of development offices and staffs is another form of "active" linkage (Sismondo, 1972; Self, 1975; Dedekam, 1977; Eberts and Sismondo, 1978; Robinson and Sismondo, 1979; McGranahan, 1984; Eberts and Kelly, 1985).

Development-office linkages usually do not involve massive transfers of public funds. Instead, they rely on the ingenuity, activity, and creativity of persons and establishments to realize further investment potential in the rural localities, often through redirecting the use of private capital. In this way they also assist in the redistribution process itself.

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[3] In a recent personal communication, for instance, Sismondo mentioned that he feels Canadian unemployment-benefit policy may have become a disincentive for some rural people. In general, Canada has designed a very rational package of unemployment benefits. Canada pegs the length of time for which unemployment benefits are extended to individuals to the extent of unemployment in the region in which an individual has become unemployed. Thus, in regions of low unemployment, such as Toronto, unemployment benefits may be only a couple of months. In contrast, in regions of high unemployment the benefits may last close to a year. A consequence of the system is that in some rural regions, apparently, people can be employed only for the summer tourist trade, then receive unemployment benefits until the next summer's tourist trade commences. In the latter case, people seem to have less incentive to take responsibility for themselves in seeking more stable, reliable, and economically productive forms of employment. Still, under Canada's system, they can keep house and home together.

Development offices keep information networks active, generally inspire a great deal of local participation, and keep incentives high in the determination of local investment strategies (Eberts and Kelly, 1985). Hence development offices make it more likely that local people will take advantage of opportunities available to them (Birch, 1979; Gaventa, 1980; Clavel, 1983). In this way they contribute to "efficiency" in the allocation of funds locally to maximize local multipliers. Indeed, the set of linkages provided by a development office is one of the most effective rural development schemes (Self, 1975; Sismondo and Eberts, 1978; Goodman, 1979; McGranahan, 1984).

In times of tight budgets for governments, it might seem that creating and staffing rural development offices in rural localities carries a heavy potential for "waste." Potential for waste is lessened, however, when such offices are joint fiscal, as well as administrative, responsibilities shared by local and state governments in addition to the Federal Government. Such joint arrangements keep each government checking on the other (Sundquist, 1969). Moreover, all three levels of government should be concerned with issues of equality within their jurisdictions, and thus should be willing to assume responsibility for efforts to increase equality.

In addition, a major response to the "waste" objection should include efforts to clarify and obtain consensus on both the goal of rural economic development and effective strategies for achieving the goal. Is it possible to agree that the goal is to reduce inequalities in rural localities, preferably in conjunction with some form of more sustained local economic growth? If the real goal is instead to increase overall U.S. economic growth as rapidly as possible, then the free-market-alone strategy may appear the most effective, and in this sense the local-rural-development-office strategy appears "wasteful."

But, as we have noted above, a free-market economy tends to generate increasing inequalities between certain metropolitan-ring localities and peripheral rural localities. Apparently, the economic growth stimulated by free-market conditions "trickles down" to the more deprived localities only intermittently and slowly, with the consequence that, at best, "the richer localities get richer faster than the poorer localities" (Eberts, 1984c).

For efficiency and efficacy purposes, the rural development offices could become an integral part of existing Extension operations. Such a merging, however, would face certain important problems. Programming responsibilities in Extension have been geared primarily to educational rather than the more comprehensive action-development activities of rural development offices. Yet certain programs in Extension, such as consultations with individual farmers on their technical and financial problems, as well as the organization of 4-H groups, at least border on action-oriented rather than purely educational activities. With additional resources as well as a slight broadening in Extension's mandates, therefore, Extension offices could well play an important role by taking on more comprehensive rural development activities.

To combine Extension with more comprehensive yet decentralized local rural development activities is such an important issue that it requires further comment. Several strong cases can be made in favor of the connection. First, Extension offices are found in nearly every U.S. county where there is any density of rural people. Since these offices are already established with responsible administrative structures, few wholly new rural development offices or new administrative arrangements would have to be created. Moreover, many functions in local rural development offices are educational in nature (Eberts, 1984a, 1984b) and thus fit easily with the mandate of Extension. Furthermore most Colleges of Agriculture, which provide research support for local Extension offices, already have business management, regional economic, and community development specialists on their staffs. Thus, new Extension education programs in rural development could be developed from the universities with reasonable efficiency.

The fact of such linkages with institutions of higher education serves as an important source for researching and developing new, locally relevant approaches to rural economic development, and for disseminating the relevant information to rural economic development offices. It was precisely the linkages to such educationally innovating institutions which were lacking in Community Action Programs in previous decades.

Moreover, since most jobs are generated through small businesses (Birch, 1979), and since Extension routinely deals with small business-type programs through their farm management programs, the combination of Extension with rural development offices and activities would again be a natural fit. Such activities have such an obvious connection that at least some Extension offices—perhaps reading the signs of the times—have already started to develop more extension programs in local economic development. Many of these programs take the obvious route of holding workshops on business management techniques (Fisher, 1986).

To undertake such activities through Extension offices, therefore, is certainly a possibility, and deserves further serious investigation. The important thing is that more comprehensive rural economic development activities are established, and with staffs geared to actively seek out linkages from the most rural localities to the more dynamic metropolitan centers. Private funds have not filled these needs. Without some such official government policy understanding and action on the parts of all three levels of government (Federal, State, and local), short of a crisis of major proportions—which none of us wants—it is unlikely that rural areas in the U.S. will ever again experience the relative levels of equality with other parts of the U.S. which they had in earlier times of our republic. Furthermore, the practice under this theory of growth does not let certain localities get richer at all, but only become poorer.

Moreover, Holland (1976) argues convincingly that simulation models can show how regional inequalities also in fact reduce economic growth in a system as a whole while, under conditions of greater regional equality, economic growth itself is maximized. Even if Holland brings no systematic data to bear on his argument, it is certainly an important hypothesis on which to base future research (cf. the first policy suggestion above).

If the real goal is to increase the extent of equality between localities (and, presumably, the amount of justice, democracy, liberty, and fraternity-caring in them), then some form of fiscal redistribution strategy is essential. Placing "active-information and money-flow linkages," such as people staffing rurally located development offices, especially in conjunction with general redistribution policies (Treas, 1983), would be both an effective and a nonwasteful strategy.

Since problems in reducing rural inequalities are so great, multiple strategies even beyond these, of course, must be employed. Key among such multiple strategies, is creation of more active linkages between rural localities and their metropolitan counterparts under official government sponsorship. Official government sponsorship is important because governments in and of themselves carry with them the networks, responsibilities, and commitments which are so important to "getting things done" (Goodman, 1979; Clavel, 1983; Eberts and Kelly, 1985). Officials see to it as a condition of their offices that "important things happen." Multiple things do indeed happen when local rural-development offices under government sponsorship are put in place (Eberts, 1975; Sismondo, 1975; Goodman, 1979; Clavel, 1983; Eberts and Kelly 1985).

OUR CHALLENGE

The most difficult part of establishing an explicit rural development strategy, it seems to me, is that it flies in the face of some current philosophy in Washington, especially in light of tight budgets. Still, there is strong empirical support for the equalizing effects of redistribution and local-rural-development-office strategies, and almost no empirical support for free-market strategies. In policy debates on how to increase equality and even economic growth itself in rural localities, the burden of proof now lies on those espousing the equalizing effects of a free-market strategy. Moreover, as noted above, if nothing is done, the data show we can expect to see a variety of indicators reveal ever-rising levels of inequality. In addition, we can expect "secondary" negative effects of rising inequality to be felt in other aspects of our society. For inequality eventually affects everyone.

Lack of attention by government policymakers to rural-metropolitan equality may be due to a variety of factors:

(1) Lack of knowledge about the seriousness of the inequalities;

(2) Lack of knowledge about alternative policy strategies in dealing with the inequalities;

(3) Belief that problems of equality will naturally work themselves out as economic growth occurs;

(4) Lack of concern about issues of equality.

This report, among others cited throughout, deals with the first three factors. If lack of concern has caused the inattention, we can look to other nations for examples where inequalities have precipitated crises not resolvable by "normal" government policy positions. The list is long and familiar—South Africa, Lebanon, Nicaragua, the Philippines, Vietnam, and, in Western Europe, England's

Northern Ireland and Wales (Clavel, 1983), Basque-Spain, and Southern Italy.

These examples may seem extreme. But armed insurrection is only the final phase in the erosion of a society's institutions (Jenkins, 1983). If increasing inequalities in the U.S. seem superficial or minor by comparison, the question is how to know when inequalities are no longer superficial and to take action against them before they become a crisis. In a crisis, often no way can be found to deal quickly with either the crisis or the inequalities except through contributing to even greater crises.

But can we learn some lessons from international examples for domestic policies? In attention to inequalities sets a perilous course. Inequalities breed demoralization and other social problems with far-reaching effects that cn alter a society's most cherished institutions. In other words, attention to problems of equality is essential to safeguard the very basis of our way of life—liberty, justice, democracy, and caring for each other.

Real, persistent, and pervasive inequalities are growing between metropolitan-ring localities and their inner cores and outer rural-peripheral localities. Since inequalities pose a danger to society, and since well-supported strategies exist to alleviate these inequalities, is not today the best time to address the problem? Inattention means only that the situation will get worse. Moreover, failure to deal with the inequalities today may result tomorrow in a reduced ability to respond.

Thus, the issue of increasing inequality between rural and metropolitan localities in our society cannot safely be swept aside. Debate on inequalities needs to become part of the national (as well as state and local) agenda. Governments at all three levels must begin to deal with the issues explicitly and effectively, rather than pretend such inequalities do not exist, are not increasing, or are of no policy concern.

Thomas Jefferson was often correct in his analyses. His concerns at the birth of our Nation—that all men are created equal—should still be reflected in the official policies of our Nation today.

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RURAL INDUSTRIALIZATION

By Gene F. Summers *

Rural and urban differences in quality of life and access to economic and cultural resources have been a fact of life since colonial days. At various times in U.S. history, conditions in rural areas have reached "crisis" proportions and precipitated public concern and government intervention. Invariably in these moments of concentrated attention on "the rural problem" or "the farm crisis" it has become apparent that economic factors were at the heart of the matter. Specifically, the conditions of urban industrial growth and the transformation of agriculture have perpetuated a rural-urban mismatch in the labor supply and demand which periodically worsens to the point of requiring government intervention.

THE LOGIC OF RURAL INDUSTRIALIZATION

From the late 1800's to the mid-twentieth century the architects of public policy followed an intervention strategy aimed at facilitating the movement of decanted farm labor to the urban industrial centers. However, by the 1960's it was clear that cities could no longer absorb the surplus labor delivered by the rural-urban migration stream. Thus, an alternative strategy was adopted during the Kennedy-Johnson era which attempted to encourage the movement of capital to rural areas in order to create jobs, reduce rural poverty, improve the fiscal base of rural governments, and simultaneously relieve some of the pressures on cities. This was the rural industrialization policy which was implemented by a series of legislative actions of Congress during the 1960's and 1970's.

Manufacturing was the policy instrument chosen to achieve these goals on the basis of a quite straightforward and simple logic. Local economies may be divided into two sectors: basic and secondary. The basic sector consists of activities which generate a flow of money into the local economy by exporting goods and services. The secondary sector consists of activities providing goods and services for consumption within the local economy. Thus, it is argued that the basic or export sector "drives" local economies and if one wants to improve the economic welfare of communities or regions it is the export sector which must be stimulated. But most traditional export activities—agriculture, forestry, and extractive industries—are not movable from one community or locality to another. However, manufacturing plants can be moved rather easily and therefore are a reasonable choice as a policy instrument. That is the logic of rural industrialization.

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EFFECTS OF RURAL INDUSTRIALIZATION

Unfortunately, a quarter century of experience tells us that the reality of rural industrialization has not been entirely as expected. The results have not lived up to the optimistic rhetoric of the 1960's War on Poverty.

Employment

It was expected that new industry (manufacturing) would create jobs for the unemployed, the underemployed and low income people in rural communities. Studies show that local labor markets operate in ways which often work against the needs of the people for whom rural industrialization was promoted. There are at least three reasons why this is so. First, many of the new jobs are filled by commuters from outside the community. In many rural areas the commuter shed has a radius of 75 miles or more. Thus, workers at a new plant often live in communities scattered throughout a multi-county area and the jobs "leak out" of the local community in which the plant is located. Second, a sizeable portion of the new jobs are filled by in-migrants who either transfer to the community from another plant operated by the firm or who migrate to the area to take advantage of the new jobs. Finally, new jobs often are filled by persons who have not previously been in the labor force. Consequently, only a small fraction of the jobs created by a new industry provide employment for those people in the community it was intended to help.

Even so, there is evidence that the rate of unemployment declines in communities receiving new industry. But the benefits are small relative to the magnitude of the problem. One should also note that the largest declines in unemployment have been observed in cases involving multiple plant locations. There appear to be several reasons for the modest improvements in the unemployment rate. Leakage of jobs to commuters and in-migrants certainly is a major reason. Also new entrants often are less stable in the labor force than are experienced workers. Consequently, residents who had not been counted as unemployed because they had not worked previously, were counted as unemployed after they entered the labor force and then left their jobs. Similarly, in localities experiencing economic growth it is common for workers to move from job to job with the consequence that at any given moment some will be unemployed. Thus, increasing job opportunities in a community or locality almost never will eliminate unemployment. However, the fact that the strongest declines in unemployment occur in situations with multiple plant locations suggests the presence of underemployment in local economies which must be substantially reduced before unemployed workers are called into the work force. In rural areas underemployment is likely to be quite high and this slack in the local labor market must be taken up before the local unemployed persons find jobs.

Income

New industry has a positive effect on income, in the aggregate or on the average. Industrial jobs typically pay a higher wage than the locally prevailing rate. But if one examines the distribution of income gains among local residents, the positive effect is less clear. New industry may raise the average income in a community while depressing the *relative* income status of some segments of the population; particularly the elderly, the unemployed, and others whose incomes are not increased by the new industry, directly or indirectly. In general, people who do not possess resources or assets for which there is an increased demand generated by the new industry will experience a relative decrease in income. This is a particularly significant issue because in many rural communities 40 to 50 percent of the population is over 65 years of age and not in the labor force. They live on fixed incomes which are devalued by localized inflation associated with new industry.

Income-Employment Multipliers

The logic of rural industrialization leads to an expectation of income and employment multiplier effects in the local economy. Jobs and income added to the community by the new industry should stimulate further income and jobs in other export businesses and in firms in the secondary sector as plant workers spend their payroll and the plant makes purchases of goods and services locally. During the 1960's, publications of the U.S. Chamber of Commerce told local communities to expect three new non-manufacturing jobs for each new manufacturing job.

Experience shows that there are multipliers but their magnitude is far smaller than expected. They range from virtually none to as high as 3.0 but the average is more in the order of 0.3. That is, it takes about three manufacturing jobs to generate one additional job in the local economy.

There are at least three reasons why the multiplier effect is so low. First, payroll and jobs leak out of the local community. This occurs through commuting of workers, area wide trading patterns, recreation travel outside the area, payment of taxes to nonlocal units of government and other transactions which take residents dollars outside the community. Second, most rural communities have many facilities—commercial, residential, industrial and public service—which are underutilized. Until utilization reaches nearly full-capacity, additional construction seldom occurs. The dampening effect here is similar to the underemployment effect on the unemployment rate. The slack must be removed from the system before the anticipated effect of multipliers will be realized.

Finally, many industries locating in rural communities purchase their supplies, production materials, financial services, legal services, marketing and advertising services and so on outside the local community. Similarly, the product of the plant is shipped immediately to non-local sites for additional processing, warehousing or sale. Thus, there are very few backward or forward linkages of the manufacturing plant which are located in the community. The payroll of the plant workforce is the principal contribution to the local economy and, as already noted, much of that leaks out. Consequently, the income and employment multiplier effects of new industry generally are rather modest.

Population Stability

To the extent that stabilizing the population of rural communities is a goal of industrialization, it is very successful. Unequivocally, new industry halts population decline. It appears this is mainly from increased in-migration and unchanged or slightly decreased out-migration. New industry, however, does not mean that large numbers of young people will cease to leave their rural hometowns in search of work and education. It does mean that as they leave, other young families move in to take their place. Consequently, rural communities with new industry have migration flows that more resemble those of larger cities and metropolitan areas. One should note also that the changed demographic structure means future changes in the types of services and products demanded by community residents of local businesses and government.

All the above mentioned changes associated with rural industrialization have a stimulating effect on local trade and commerce, even though the impact is less than hoped for. Real estate and retail sales are particularly worth noting because they represent the major components of the revenue base of local governments: property tax and sales tax.

Real Estate

The inventory of parcels of real estate on tax books generally increases with new industry; especially residential parcels. This is consistent with the evidence of population growth of course. Most communities experience little growth in commercial and industrial parcels; probably due to the underutilization of existing facilities and the backward and forward linkages of the new industry. On the other hand, assessed valuation of real property virtually always increases in all categories: residential, commercial, and industrial. Clearly, the property tax base is enhanced by rural industrialization.

Retail Sales

Similarly, retail sales increase with new industry. This reflects both the aggregate growth in income and the population increase. The magnitude of growth is often relatively modest and less than expected but this experience is consistent with the leakage of payroll and jobs already mentioned. Clearly, there is private sector growth resulting from new industry and it is not surprising, therefore, to find local merchants, bankers, and real estate developers active in promoting new industry.

Local Government Finance

One of the primary goals of the rural industrialization policy was to improve the fiscal base of local governments. As just noted, the tax base generally is increased in communities with industrial growth. But that is only one side of the public ledger. To local governments, people cost money and more people cost more money. Where new industry brings population growth, it often strains the public service delivery systems and increases the costs to local government. Experience shows that the increased expenditures occur in the provision of schools, police protection, highways, streets and roads, and health services and facilities. All of them quite reasonable consequences of a growing population with school age children.

Of course, the ultimate question with respect to local fiscal impacts of new industry is its net effect on government revenues and expenditures. This is not well studied and most analyses are rather short run, less than five years after the location of a new industry. However, the evidence clearly suggests that in the short run increased costs outweigh gains in the fiscal base. Positive net gains have been observed where no local subsidy was offered to industry and where there was little or no population increase.

CONCLUSIONS

The basic logic of rural industrialization appears to be sound but several assumptions about the mechanics of the process are violated in practice resulting in inaccurate estimates of impacts and unfulfilled expectations. For examples, the extent of leakage of jobs and income often is underestimated, the underutilization of labor and facilities is not adequately estimated, benefits are assumed to outweigh costs and seldom are actually calculated, and the distribution of costs and benefits to various segments of the local community, especially the elderly, is seldom considered.

Perhaps the most serious oversight is the fact that manufacturing is not a source of employment growth nationally. Goods production as a percent of GNP is doing reasonably well. The total value of industrial output also is doing reasonably well in comparison to other sectors of the national economy. But as a source of new jobs, manufacturing clearly cannot provide the needed employment growth of all local economies.

This does not mean that local community economic development groups should abandon the possibility of attracting new industry. Clearly new industry can have positive effects on the local economy if handled wisely and every year some new plants are opened. But the number of new plants are far too few to provide a solution to more than a handful of communities. What is needed is a policy initiative which encourages and supports a comprehensive strategy of community economic development as has been outlined by Professor Glen Pulver of the University of Wisconsin.

Such a comprehensive strategy should at least attract new basic employers including nonmanufacturing firms that export goods and services; provide assistance to existing employers; encourage and assist new business startups; enhance communities ability to capture dollars already existing in the local economy; and facilitate the ability of local units of government to secure funds available from nonlocal units of government. Thus, rural industrialization is but one of several strategies for dealing with the spatial inequalities of economic opportunity and quality of life.

RECENT CHANGES IN ECONOMIC STRUCTURE OF LOW-INCOME REGIONS *

By Eldon D. Smith **

The disgraceful problem of rural poverty—the great concentrations of the poor called *The People Left Behind*—was chronicled by the President's Commission on Rural Poverty nearly two decades ago. That problem is still with us. In some respects the recent recession has exaggerated it. However, the economic and institutional context which confronts communities with major poverty problems is quite different from what it was two decades ago. This chapter attempts to identify and interpret two aspects of this change in context that have not received the attention they deserve heretofore. Illustrative data for Kentucky will be presented to support the argument.

Much has been written by others on the very effective penetration of United States markets by offshore manufacturers and the importance of this fact to rural economic life. The decline in domestic manufacturing will probably continue, and continue to be significant in the shift to service industries as the future growth sector. This change is important and challenges much of what we thought was understood only a few years ago, but it is not the subject of this chapter.

In this chapter discussion will center on two somewhat more obscure changes: (1) an apparent qualitative shift in the migration into rural communities, which is associated with the familiar population turnaround of the last decade or so, and (2) the very pronounced increase in commuting to jobs outside the community of residence. These seemingly peripheral changes in the context of rural communities have potentially major significance as determinants of how economic change affects the well-being of rural people. Further, there is an attempt to isolate ways in which the contextual changes may affect the design of effective program strategies in counties and municipalities and the state and federal agencies which support their efforts. While some of these changes may point to a need for statutory or constitutional modifications in individual states, these questions are beyond the scope of this brief chapter.

SHIFTS IN PATTERNS OF MIGRATION

Migration from rural to urban areas has always been accompanied by a back-flow of return migrants. Many rural people have always been somewhat ill-prepared for the transition to urban occupations and urban life. Typically, rural people, especially those from the more impoverished areas, had relatively inferior educational attainment, and had limited opportunities to acquire by experience directly marketable economic skills, although some of their acquired skills had varying levels of transfer value. Behavioral scientists have also documented the limited preparation of some for the adaptation to the somewhat alien social and economic environment of urban centers. All of these factors made this transition a difficult one for many rural people and, as a market process, relatively inefficient. A large proportion of all those who left their rural origins for nonrural occupations returned, and a significant portion of these returned permanently. The economic and social experience of migrants was analyzed in a long series of studies by sociologists, demographers, and economists in the 1940's and 1950's, and was adequately reviewed in the general report of the President's National Advisory Commission on Rural Poverty issued in 1968. Journalists occasionally wrote of it, and some works of fiction—such as Harriett Arnow's *The Dollmaker* and Steinbeck's *The Grapes of Wrath*—portrayed the problems of uprooted and ill-equipped migrant populations.

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Studies by Brian Perkins and Dale Hathaway documented, in 1966, the fact that even in times of relatively full employment a very large number of people flowed back from non-farm to farm occupations. Wesley Weideman and John Sanders found in Appalachian Kentucky that this back-flow was explained by several factors, including the marginal employability of the less-well prepared and significant numbers who were for various reasons discontented with urban life and work. Some anticipated and even planned for the return. Smith found a significant proportion of rural migrants to Indianapolis who aspired to return to their rural beginnings. Other (and less systematic) evidence suggested a large back-flow during lay-offs in such major industries as steel, automobile manufacture, etc. The back-flow was often conspicuous, owing to the well-documented tendency for particular rural communities to be linked through previous outmigrants to individual industries in particular cities.

In the last two decades outmigration has declined for reasons which are familiar and need not be documented. The last mass exodus from labor surplus areas is now a quarter of a century behind us, and this earlier wave of migrants has had ample time to "settle in" and carve out an acceptable niche in the urban areas to which they migrated. This situation presents a new labor market context which has significance for rural economic development.

The experience in the early years of the recent recession shows clearly that conditions in the rural-urban labor market have, indeed, changed. No longer does a ripple on the surface of the labor market in the industrial centers send migrants back to their rural origins. While even as recently as the period following the OPEC embargo crisis, substantial numbers of out-of-state claimants moved (back) to Kentucky and filed unemployment insurance claims, this did not take place when the recent recession struck (Figure 1). Data on transfers of students to Appalachian Kentucky schools shows a similar pattern (Figure 2). Apparently those who have transferred into the area are no longer in significant proportion from the marginally employable categories of out-migrant labor which are last hired and first fired. The movement out of rural areas continues in reduced magnitude, of course, with movement into rural areas substantially increased. But the data suggest that the labor market is working more efficiently, moving fewer marginally employed recession-vulnerable workers into urban jobs.

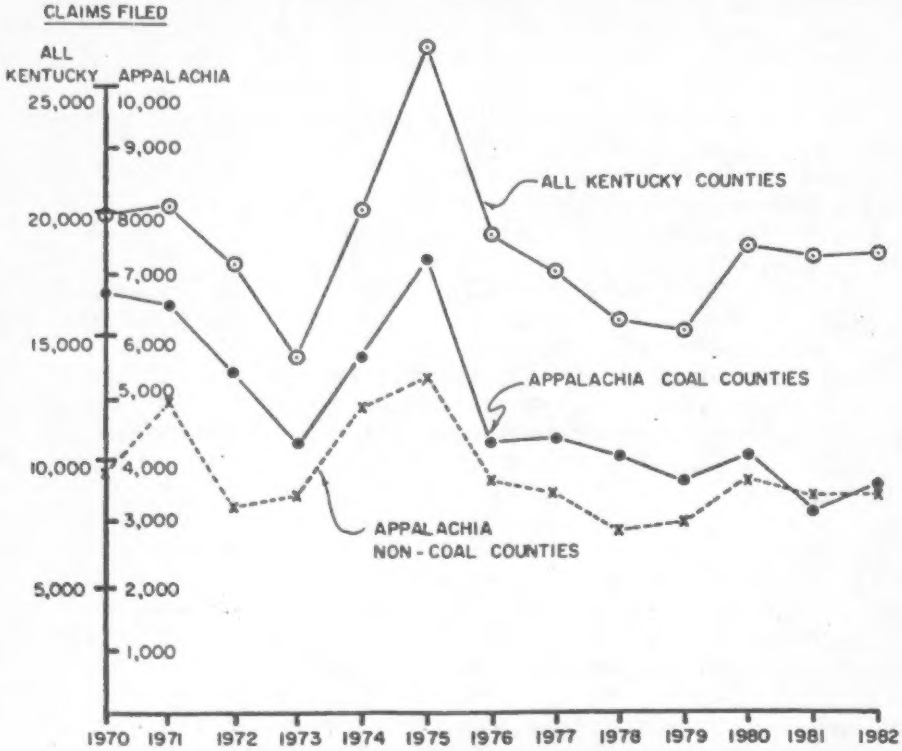

Fig. 1. Unemployment Compensation Claims Filed by Persons Whose Last Employer Was Outside Kentucky.

Source: Special tabulation, Dept. of Human Resources, Commonwealth of Kentucky, Unemployment Insurance Division.

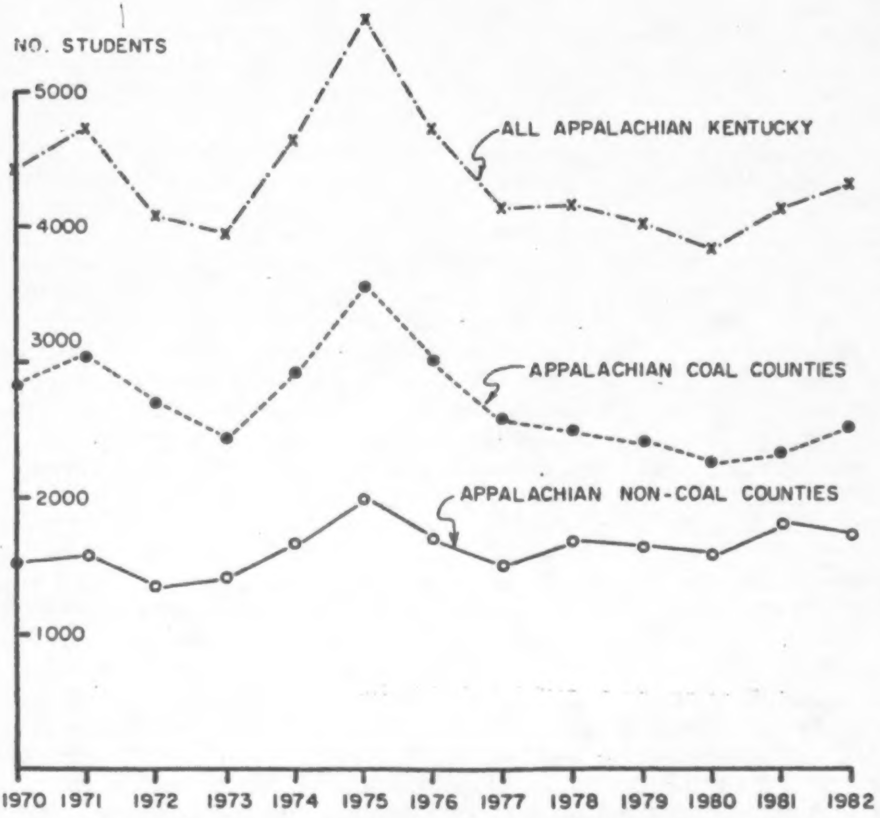

Fig. 2. Within School Year Transfer to Appalachian Kentucky Schools From Non-Kentucky School Districts.

Source: Special tabulation from records of Kentucky Dept. of Education.

More positive evidence is found in a recent USDA Economic Development Division survey study in a low income area of South Central Kentucky which had rapidly expanded employment in manufacturing during the early 1970's. People who moved into this region since 1974 had been people with educational preparation which was better on the average than long term residents. Seventy percent of them were former residents and their average earnings in the area were above those of long-term residents (Larson and White). The data suggest two related conclusions. First, the more recent migrants may be better prepared and more able to establish themselves in relatively secure employment. They may have in increasing proportions acquired a fund of skills which make them less vulnerable to minor shifts in business conditions than the migrants of earlier periods. Second, it appears that significant supplies of labor with employable and even somewhat superior qualifications may be induced to return to such rural areas if suitable jobs are available.

It now appears that the tables have been in some degree turned. No longer are the rural areas serving primarily as a supplier of industrial manpower for other regions and as dumping ground for the inferior grades of manpower when unemployment occurs. For those areas which have potential for growth, the destination areas of the earlier migration have become, to some degree, a training ground of the somewhat better-educated and more trainable migrants from rural areas. The destination areas of the earlier migration may have become in greater degree the suppliers of developed, experienced manpower resources for the rural hinterlands. They may now provide the necessary foundation-stock or nucleus for a productive nonfarm work force for employers within rural areas.

If this hypothesis proves valid for other poverty areas, it has some significance for strategies of economic development. For firms with potential interest in rural sites, the usual local manpower resource inventory may provide an incomplete picture of labor supplies, especially supplies of trained and trainable, experienced manpower. What may be needed is a supplementary inventory of outmigrants who have significant training and experience relevant to the manpower needs of major categories of potential employers. By developing an efficacious means of meeting the requirements of more skill-demanding industries, including the growth-oriented service industries, the base of development opportunities may be broadened and deepened. But the hypothesis has possible longer-run development significance that goes beyond this.

In recruiting potential employers, rural communities confront trade-offs. Employers with minimal skill demands staff their firms with comparatively few nonlocal people and may have favorable immediate employment effects on the local labor pool. However, as we have suggested, a modified strategy of recruitment may allow a broader range of firms with greater skill requirements to operate profitably in rural areas. In addition, this strategy may allow communities to provide more visible incentives to the young (and to their parents) to upgrade their productive capabilities by more general schooling and training relevant to employment.

The inferior educational preparation of the children reared in rural areas, especially in the chronically impoverished ones, has been recognized for a very long time (Haller). More equal financing through, especially, state supplements to locally appropriated revenues has not erased the deficiency. No very well documented explanation has been provided. Among the more plausible explanations is an inversion of Say's classic law of the market, that supply creates its own demand. Instead, demand for workers with enhanced skills which is visible in the local community may be a precondition for the investments of time, effort, and money to acquire the skills.

In the Appalachian coal region, rewards for education locally are quite low, owing, in part, to the demand structure in the heavily-unionized coal industry. The low priority accorded schooling in such areas is at least strongly suggestive that it results from a dearth of direct evidence that education makes a difference. The importance of local demonstration effects of tangible rewards for these personal investments may be a key and neglected consideration in development strategy. If I am correct, a new recruitment strategy emphasizing firms with higher skill requirements, but one which fills these requirements partly from the pool of outmigrants with developed capacities, may have merit. The resulting back-flow of manpower may contribute to growth, rather than being a burden on the local population as it was in earlier periods.

THE COMMUTING EXPLOSION

In the decade between 1970 and 1980, there was another important change in the context in which rural areas map their development strategy. This involves the much greater mobility of labor and much-broadened rural labor markets. As an example, in Kentucky, a state with very small counties, there was a large increase between 1970 and 1980 in commuting across county boundaries to work. It increased by about 42 percent in absolute numbers, by 1980 involving about one out of five workers statewide (Table 1). Obviously, commuting into municipalities where nonfarm jobs are concentrated is much more important proportionally than commuting into counties. While the flow of commuters goes both to and from every county, the counties (and municipalities) with the most rapid growth rates have relatively fewer outcommuters and a disproportionately large incommuter flow. An examination of the data for smaller sizes of cities for which there are census reports shows, in extreme cases, more than half of the municipal work force commuting. Paducah, Kentucky had 59 percent and Quincy, Massachusetts had 60 percent nonresident work force in 1980, for example (U.S. Bureau of the Census).

TABLE 1.—INCOMMUTING PATTERNS IN KENTUCKY COUNTIES, 1970 AND 1980, BY CLASS OF COUNTY

Class of county	Number in class	Incommuting: average number of counties supplying 1 or more commuters		Workforce [3] commuting into county (percent)	
		1970	1980	1970	1980
All Kentucky counties	120	8.8	22.0	16	21
Core metro counties [1]	7	28.3	64.0	17	22
Metro periphery counties [2]	19	8.3	21.3	16	23
Larger submetro counties (over 15,000 employed residents)	10	14.4	47.6	16	22
Intermediate submetro counties (7,500 to 14,999 employed residents)	20	10.2	27.9	15	21
Small submetro counties (under 7,500 employed residents)	83	6.7	13.8	14	20

[1] Includes Boone, Boyd, Campbell, Davies, Fayette, Jefferson and Kenton.

[2] Includes 19 Kentucky counties contiguous to core metro counties over significant border distances. Hardin and Spencer Counties excluded. All are included in other classifications.

[3] Workforce = those working and residing in county and workers commuting from other counties to work at establishments in the county.

Sources: Kentucky Department of Economic Development. "Commuting in Kentucky 1980." Frankfort, 1984. Kentucky Department of Commerce, "Commuting Patterns of Kentucky Counties." Frankfort, 1973.

Note.—All figures reflect commuting from outside state boundaries.

The significance of these changes is not immediately apparent and their magnitude will vary among states and within them. In some states counties are geographically very large compared to those in Kentucky, with associated reduced frequency of intercounty commuting under otherwise comparable conditions. However, what is obvious is that the benefits of local actions which result in employment growth spill over far beyond the municipality or county where the work occurs. This spillage through commuting has greatly increased despite higher-cost fuel following the OPEC episode. Therefore, the incentive to take further initiatives may be significantly diluted. The prospect of higher local public service costs per capita attending employment growth, but benefits spilling over into surrounding political jurisdictions, is not totally attractive. If institutional means are not available to capture tax revenue from those who are employed, (1) local residents who have not benefited from growth may find themselves bearing additional costs in the form of taxes, and (2) those who do benefit may bear costs for non-residents who escape the meshes of the taxation system.

Data from the Census of Local Governments show that the local government fiscal systems in many states are still predominantly based on the ad valorem property tax and a variety of state aids. Kentucky is among them, although an occupational license tax is employed increasingly as a substitute for a local income tax. Country-wide, the property tax provided 58.3 percent of municipal tax revenue in 1977. According to the 1977 Census of Local Governments (Vol. 4, No. 4, p.2), "The predominant source of general revenue from own sources of municipalities, as for local governments, generally, is the property tax."

Even under the present fiscal systems of rural areas with the recognized spillovers of benefits, local benefits of local programs to develop employment opportunities may, on the average, exceed costs. However, such programs of development are not riskless. The examples one finds of unutilized industrial parks, empty speculative structures and underutilized utility capacity provide warnings of these risks. Therefore, citizens have some reason to be concerned with the distribution of costs and benefits between local and nonlocal employees. And fiscal systems are a primary means for aligning the costs and benefits. The result of these spillovers without associated adjustments in fiscal systems may be a general underinvestment in development programs.

Some consideration of means to deal with the problem presented by these leakages of benefits through commuting is obviously needed. One cannot build fences around the local political jurisdiction to prevent commuters from competing for local jobs. The variety of inter-governmental transfers of revenue from state and federal to local units of government, amounting to about 40 percent of municipal revenues, may be helpful. However, this depends on criteria of allocation—e.g., population count, road mileage, etc.—and usually does not directly take into account costs incident to a large incommuter population.

The multicounty district system with its severely restricted authorities has so far proved inadequate for these purposes. Jointly supported sanitary landfills and fire protection systems seem to provide a common ground for collaborative action, but not shared costs of an industrial park located in a single community. A significantly more active role by State and Federal Government in local development efforts seems inconsistent with current political attitudes. Issues of constitutional law might present themselves if Federal Government enactments mandated action with respect to responsibility now allocated to local governments. Redesign of fiscal systems to take account of benefit externalities of local development efforts may be the only available alternative means for more equitably aligning costs and benefits of employment growth. At any rate, the problem seems to merit much more attention than it has received. Perhaps its neglect is attributable to the fact that it has developed slowly and unnoticed. It involves knotty legal questions and political issues but these questions and issues have important economic development significance.

PROBLEMS OF DEVELOPMENT WITH SERVICES AS A LEADING SECTOR

Reference was made to the decline of manufacturing and the emergence of service industries as a primary growth sector. Regrettably, we have little concrete information on the portability of the export-oriented of these service industries, or their specific locational requirements. With the introduction of computer adaptations and electronic communications economies, it seems apparent that there are no reasons for some of these to be tied to unique locations. But it seems equally apparent that in most of the service industries which are likely to be mobile (e.g., insurance, finance, communications, etc.) personnel requirements will be demanding. Specific information on these requirements is in short supply. This is the reason that the previous discussion of changes in economic context has been completely general. But one thing is clear, if demonstration effects are important to induce rural people to invest in their own economic productivity, it is true whether the skills are for high-technology electronics manufacture or for actuarial statistical analysis in insurance companies. And if commuters man punch presses or the computer terminals of financial institutions, the public costs associated with their employment and their contribution to public revenues can be important. This is why the whole structure of fiscal institutions is worthy of a prominent place on the policy agenda.

The fiscal institutions that we have may in many communities reduce local incentives for development efforts. This is quite evident upon only casual inspection. Perhaps the financial interests of real estate speculators and main street businessmen are adequately, or even excessively, articulated. It is not at all clear that the present largely internationalized community costs but, significantly externalized community benefits, result in an optimum level of investment in development programs.

The multicounty development district was introduced many years ago in part as a means of dealing with the problems of spillovers between counties. It has served well in bringing the services of specialist staff to bear on problems beyond the capacity of smaller local governmental units. Coordinated provision of fire protection, sanitary landfill, and other services with significant scale economies has been a distinct contribution. However, there appear to have been few successes in coordinated action to develop employment opportunities, possibly owing to the genuine conflicts of interest between the articulate elements of adjacent counties or municipalities with overlapping commuter sheds. The modification of fiscal institutions may be the only politically feasible alternative in an era of Federal fiscal austerity.

CONCLUSIONS

The central message in these bits of evidence is relatively simple. First, in the design of rural development policy, the institutional context, in this case the structure of local fiscal institutions, has a potentially important bearing on the incentives for and rewards from community development investments. Important changes in the labor market have occurred, changes such as broader commuter sheds and an apparently more efficient interaction between geographically separated supplies of rural labor and urban demands for it. These changes provide a modified context for development policy. This new context furnishes a potential opportunity to more effectively mobilize and develop rural manpower resources by motivating greater investment in the development of the human capital resources now underemployed in rural areas. But it will require more sophisticated and farsighted strategy than simply recruiting employers without regard to their longer term contribution.

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LEADERSHIP AND RURAL AMERICA

By Maurice E. Voland *

By leadership, I mean that set of skills and abilities which makes it possible for the individual not only to influence others towards some target, or goal, but also to help them develop their own abilities as individuals and group members.

It is this form of leadership that was perhaps the singular genius of this Nation. It assumed that not just the chosen few could become equipped to lead this Nation and its various institutions, but that these leadership skills could be learned and developed by the masses. To put it another way, there was the strong feeling that "none of us is as smart as all of us," and that it took the skills of the many to accomplish what was best for all.

WHAT WAS

When the United States was an agrarian Nation, nearly all of the people who moved to leadership roles had rural roots. Because the problems facing any locality were little different from those facing states, regions, the Nation, or even the world, individuals had the opportunity to develop their problem solving skills in their home communities. They found applicability for these skills with only modest translation to adjust for the scope of a problem at other levels. The way of life was such that individuals had the opportunity to learn leadership and problem solving by observing their elders. The opportunity to observe and then practice leadership and problem solving in situations near at hand allowed the individuals to hone not only these skills, but their self confidence as well.

If it were a problem dealing with the provision of public facilities (roads, bridges, etc.) or public services (fire protection), those individuals most affected generally assumed responsibility for organizing the others, who were also affected, to deal with the need. To fully understand this phenomenon, it must be remembered that only in recent decades have the various levels of government (local, state, and National) assumed responsibility for the provision of some public facilities and services. With the increasing involvement of government in the business of providing needed facilities and services, fewer rural residents were directly involved in the problem solving process at the local level. Earlier, when they organized themselves to deal with a problem such as building and maintaining a road, they also developed a series of organization and leadership skills that had applicability in other arenas. However, when the provision of these facilities and services became the

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government's responsibility, elected officials and the managers of organizations/agencies designed to solve those problems assumed this responsibility.

The opportunity for individuals to develop their leadership and problem solving skills continued to be available through the many voluntary organizations (civic, social, fraternal, religious, farm) that dotted the countryside. However, there were few opportunities to address the scale and scope of problems that brought to the individual the kinds of skills that had high levels of transferability to other sectors of life.

The problems facing rural localities became further complicated as the local institutions of these communities were expanded and linked with those of the larger world. The locus of decisionmaking on these more complex problems required resources not locally available and thus moved further away from the individual rural resident. Additionally, the scale and scope of these problems were such that it was difficult for individuals to sharpen their leadership and problem solving skills sufficiently in their rural localities to adequately prepare themselves to address problems of this nature.

WHAT IS

We have seen that the rather simple agrarian society upon which this Nation was founded provided ample opportunity for individuals to develop and sharpen their leadership skills by dealing with problems close to home. In fact, throughout the first 100 years of the history of this Nation, it was individuals like these who were able to move to significant leadership roles in both the private and the public sectors.

However, as the United States became more urban and industrial, the scale and scope of problems in both the private and the public sectors became more complicated. The consequence of this complexity is the reality that it requires specialized skills to facilitate problem solving. No longer are the generalized skills learned experientially sufficient. As the locus of decisionmaking moved away from rural areas, the opportunity for the individuals residing there to develop their native abilities to the levels required for leadership and decisionmaking in our more complex society became more difficult. In addition, if they were to sharpen these skills, they probably would need to spend significant portions of their lives away from their roots, the rural areas from whence they came. A very real consequence of this phenomenon is the potential for these individuals to lose touch with these rural areas, and with changes taking place.

While there was a "population turnaround" for some rural areas during the decade of the 1970's, highly-educated, young individuals have consistently migrated from rural areas. Throughout the history of this Nation, the young, highly skilled, and better educated rural residents who moved from rural to urban areas have helped to fuel the development of the urban/industrial economy. Migration of this nature has deprived rural areas of a major resource for fueling and sustaining its own development.

The continued selective outmigration of young adults from rural areas is but one of the continuing challenges facing rural America.

The massive adjustment that has taken place in agriculture since the close of the great depression has not only effected those families involved in the production of agricultural goods, but has also effected those families dependent on the provision of supplies and services, and marketing of agricultural products. These adjustments have released massive numbers of agricultural laborers who have joined the nonagricultural labor force.

Because of family ties and property ownership, rural areas contain an elderly population that is proportionally higher than is present in the nonrural areas of the Nation. Rural areas also contain a disproportionate share of families who have low incomes. Problems associated with a poor and an aging population, compounded by a dependence on local property taxes to support local government, face rural leadership at the time of declining financial support from the Federal Government. All this is occurring as land values are declining and the abilities of local residents to support new forms of taxation are limited.

As a result of growing societal affluence in recent decades, there has been the expectation by new residents that rural facilities and services should be a match for those available in urban areas. While these expectations are laudable, the reality is that the cost per resident of providing the same quality of such services as municipal water and sewage, solid waste collection and disposal, public transportation, crime prevention, emergency services, etc. is much higher in rural than in nonrural areas because of distances involved.

These challenges face the leadership in rural areas at the very time that revenues to support public facilities and services are under greater pressure than at any time since the 1930's. While much surplus agricultural labor has been absorbed into manufacturing and other industries that have located throughout rural America, many of these industries are faced with stiff competition from producers in countries where wages and environmental requirements are significantly lower. Crucial decisions regarding the employees in these industries are rarely made by rural leaders in rural America. Consequently, even those rural residents who have been able to move to local management level roles in these industries have limited opportunities for developing their leadership and decisionmaking skills regarding the highly complex decisions facing these industries.

Because of the necessity in the past for physical proximity to enhance interpersonal and interorganizational communication, private as well as public sector "headquarters" offices were located in nonrural areas. The formal and informal training experiences which might assist the individual to develop and sharpen his/her leadership skills for dealing with the highly complex problems facing both private and public sectors were essentially available only in these nonrural areas. It continues to be extremely difficult for rural residents to develop their leadership and decisionmaking skills to the levels that will make them competitive with nonrural residents who have ready access to more learning opportunities.

WHAT CAN/MIGHT BE

If a problem is to be solved, it first must be seen as a problem. Consequently, if there are fewer opportunities for rural residents to develop and sharpen their leadership and decisionmaking skills than for nonrural residents, it must be determined if it is in the best interest of the nation to continue this disparity, or to implement policies and procedures that will address the disparity. My assumption is that it will be readily agreed that there ought to be equality of opportunity but there will perhaps be less agreement about how to implement these opportunities.

Currently available technology has eliminated the one primary reason for physical centralization of decisionmaking. It is no longer necessary to be in physical proximity with others involved in the decisionmaking process. Through electronic linkages of various sorts, the only limiting factor on location of those involved in the process is their access to existing telecommunications equipment, or the local availability of satellite down- and uplink capability.

Diversity and heterogeneity have marked this Nation since its earliest days. These very factors have been touted as major elements in the process that has allowed the United States to successfully address the challenges which have been presented to it. While many will say that we have become a mass society because of modern transportation, communication, and marketing systems, there still is great diversity and heterogeneity across the Nation. The geographic dispersion of participants in the decisionmaking process more widely throughout the countryside would add new elements to the diversity and heterogeneity which already exist. While there may well be some leveling of the peaks and valleys of difference, the process will become even more complex and the end product will be vastly different than if it had not received the infusion of new elements.

If there is agreement that it is in the best interest of this nation to expand opportunities for those in rural areas to enhance their leadership and decisionmaking skills, policies in both the private and public sector should be reassessed. I believe that if this were done conscientiously, it would be evident that existing policies favor residents in nonrural areas.

Given the fact that we have moved beyond the industrial age into the information age, there exist creative opportunities for altering private and public sector policies which have favored centralization towards a more geogrpahically dispersed set of opportunities. Since information is more easily moved than people, raw materials, or manufactured goods, nonrural areas no longer have a major advantage for the placement of units involved in decisionmaking. Consequently, it can be possible to expand opportunities for rural residents so they, too can develop their own leadership and decisionmaking abilities to the levels required in contemporary society by participation in private and public sector activities close to home.

While it is truly optimistic to expect that these things will happen just because it is in the long-term, best interest of the Nation, the inertia of the system will be such that changes in this direction will be slow. It may be necessary to develop mechanisms that can speed this process. One such mechanism is to provide opportunities for residents of rural areas to hone their leadership and decisionmaking abilities through focused learning opportunities. These opportunities can be implemented through private/public sector partnerships that can bring benefits to both.

Beginning in the mid-1960's, the Michigan-based Kellogg Foundation began funding "Rural Leadership Development" programs through selected organizations and institutions of higher education. Programs of this nature had been available to young adults in nonrural areas who were identified as potentials for leadership roles for many years. Local Chambers of Commerce or similar business and economic development organizations have been the prime sponsors of these nonrural based programs. The goal of the Kellogg program was similar but was directed at young adults in rural areas. It was assumed that a series of structured group-centered educational experiences had the potential for speeding up the acquisition of significant leadership skills by these individuals.

Results from these early efforts tend to support the assumption on which these programs were based (Howell, *et al.*, 1979). Significant group-centered learning experiences, plus travel to state capitals and Washington, D.C. to learn more about the legislative process and to develop personal relationships with elected officials and their key staff members, were major ingredients in the curriculum. Additional travel to centers of trade, both domestic and international, also put these individuals in touch with their competition/markets so that they might better understand how events elsewhere might affect them back home. The outcome of these efforts allowed the rural based leader to better respond to external pressures and opportunities as well as to be better equipped to exert pressures on others that might put them and their localities in a more favorable position.

In recent years, the Kellogg Foundation has funded additional Rural Leadership Development programs based upon the success of the earlier efforts. Other private and public sector organizations also have adopted parts or all of this model to foster the development of leadership skills by additional rural residents. [1] Perhaps one of the most gratifying signs of success is that in Pennsylvania—one of the earliest States to have a Kellogg Foundation sponsored Rural Leadership Development program—alumni have developed a sponsoring organization and are contributing funds to foster its continuation.

The review of existing policies that may limit the opportunities for rural residents to enhance their leadership and decisionmaking skills by private and public sector groups and organizations can be a first step. If these policies are addressed in such a way so as to increase the number and types of opportunities for rural residents, the Nation can be the beneficiary of an enhanced pool of skilled and knowledgeable leadership resources.

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[1] Reynolds Industries and Phillip Morris, Incorporated have sponsored programs of this type for selected farm operators in North Carolina in recent years. The Rural Development Service of the USDA sponsored a series of 12 "National Rural Development Leaders Schools" for selected rural leaders during the mid 1970's. This program model has been replicated with local resources and targeted at rural leaders in various States, including Missouri, North Dakota, and South Carolina in recent years.

The third sector, known as the not-for-profit or the independent sector, should be involved in this process as well. It may be responsible, in large measure, for the implementation of those leadership enhancing opportunities that may be sponsored by private and public sector organizations and agencies. The success and effectiveness of these programs will, for the most part, be dependent on the abilities of these three sectors—the private, public and not-for-profit—to work together, each assuming that responsibility for which it has the greatest expertise. Policies and programs fostered by each sector towards these ends can be more effective if they are developed in concert rather than in isolation. To accomplish this will require inspired leadership behavior by those currently in these roles. If they do not act now in such a way that will increase the potential for more rural citizens to enhance their leadership and decisionmaking skills, the organizations/agencies they represent and the Nation itself will all be future losers.

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EXTENSION TODAY AND TOMORROW *

By James A. Christenson and Paul D. Warner **

In the late 1800's, my great grandmother, as a young child, left St. Louis in a covered wagon train and journeyed 3 long months to Walla Walla, Washington. She lived to see Neil Armstrong take his "giant leap for mankind" on the moon. Her beginnings were not much earlier than those of the Cooperative Extension Service. The dramatic changes she experienced took place during the same period in which the Cooperative Extension Service evolved to its present state.

In the early 1900's, Extension served my great grandmother. When the local county agent came to my great grandparents' farm, he was bringing news, ideas, and education to isolated farming communities. The county agent was respected because he or she had ties to the state university and because he or she had knowledge about farming, food processing, community organizing, and youth development that was unavailable elsewhere. Farmers and nonfarmers of my great grandparents' generation saw county agents as people-oriented teachers who were disseminating new ideas, demonstrating new ways of doing things, and discussing options for the future. They were trusted counselors.

In my grandparents' generation, county staff became an integral part of the farm decision-making structure and the local community. Along with the local banker, the school principal, and the newspaper editor, the county agents played a major role in the development of local communities. The county staff stimulated the creation of rural electrification, soil conservation efforts, and many organizations and agencies targeted to serve rural America. They were an encyclopedia of information, trusted teachers, organizers, and personal friends.

During my parents' generation, the role of the county agent began to change. County staff members continued doing much the same things they were doing in previous generations but other organizations came to play an equally important role. Along with 4-H there was scouting. County agents conducted test-pilot demonstrations and had field days but local fertilizer companies, implement dealers, and seed companies also had demonstrations and seminars. And these latter groups provided complementary drinks and food. County agents continued their educational role but they became one of many resources available to farmers and rural residents. However, when my parents sold the farm and moved to the city, they continued to call on the services of Extension. In fact, there seemed to be greater appreciation of Extension from my transplanted urban parents than from their rural cousins.

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Now in the fourth generation, my family and I have always lived in an urban setting. I know some county agents because of my job but I am not a very frequent user of the services of Extension. Most of my neighbors get gardening information from the retail garden center; they have a lawn care service take care of their yards; they take evening courses on cooking, interior design and personal finance from the adult education program of the public school system; and their children are in the scouts, City Little League, and YWCA programs. My neighbors do not find Extension as the prime providers of services and information upon which my grandparents relied in years gone by.

Concerns about the changing times and the relevance of Extension are topics of discussion throughout the 50 States and at the federal level. The question is not just what Extension can do to meet today's needs but what will tomorrow hold. We have to remember that when Extension was founded the majority of its clientele were rural people. Rural areas were isolated, illiteracy was high, and it was difficult to get information to residents of rural America. Now, according to a recent national survey, less than 10 percent of the users of Extension are farmers and only a third are rural residents (Warner and Christenson, 1984). Radio and television, the mail, the interstate highway system, and computer networks have narrowed the information access difference between rural and urban areas. Times have changed, the composition of the public has altered, and the needs of the people are different.

Extension is in the educational business. It seems logical that it *should* play a major role in the evolving information society. But will it? Can an organization conceived of as a way to get farmers and rural people to adopt new occupational and home practices play a major role in an information society that is concerned with worldwide agricultural systems and is dominated by an urban populace? And can it survive the competition of other information providers?

This chapter explores how key elements of the information society relate to the existing and potential role of the county Extension staff. It will assess whether and how Extension can compete in the knowledge transfer business, whether it has access to unique information, and whether it plays a special role in the educational process for its clientele. In short, what should be the future for the county Extension staffs in the knowledge transfer process?

COUNTY EXTENSION STAFFS

More than 11,000 county Extension staff members serve as the cornerstone, the front line actors of the Cooperative Extension Service's delivery system. The county personnel are Extension's prime link to the public, serving as university educators in applied settings. Although county staff have offices in the more than 3,000 counties throughout the U.S., they are tied to the Land Grant system through a network of state and area specialists.

An oversimplified illustration of the role of county staff in the dissemination of technological information would run something like this. Researchers generate new ideas, often in response to problems identified by agents and specialists. State Extension specialists, working closely with these researchers, package innovative ideas for dissemination to agents and other audiences. The county staff then serve as educational brokers, telling people about specific practices, showing them through experimental plots or demonstrations how it will improve their well being, and helping clientele to adapt the particular knowledge or practice to the person's specific needs and environment.

Extension needs the research information and the research expertise of the state universities and the U.S. Department of Agriculture. Without this knowledge development component, there would be no unique informational content. Likewise, researchers need the Extension staff. Information becomes knowledge when it is used and applied. Without a dissemination system, new ideals, approaches, and techniques would remain in the laboratories and the offices of the universities. Research results are beneficial to society only if they are utilized. The process of technological transfer entails a partnership between research and Extension. Without that balance, the fundamental concept upon which the Land Grant university is based breaks down.

The Cooperative Extension Service is but one dimension of the Land Grant System. Extension, like the meaning of the word, extends knowledge from the university to the applied setting. The interworking of Extension and research complemented each other in early years and we continue to extol the benefits of their close association. However, today, the two components of the Land Grant system seem to be marching to different drummers (Madden, 1985). They seem to be drifting apart. As Feller (1984) has pointed out, the research establishment is looking inward to disciplinary related issues and basic research problems. The reward system for scientists funded by Experiment Stations tends to recognize contributions in the form of books and articles focusing on fundamental contributions to science. Field plots have given way to lab tests. Applied research has given way to academic research. Field work and the application of findings do not fit well in such evaluation criteria.

The Extension Service marches to the drum of local needs and priorities. The dialogue between research and Extension, while friendly, has declined. *Researchers need to strengthen their partnership with Extension.* In many cases Extension specialists have stepped in to fill the need for applied research. They are technically trained and can understand the language of the researchers, and yet, they are sensitive to the needs of clients. As a result, Extension specialists may now be conducting much of the applied research that was formerly carried out by researchers. However, in other areas, this redistribution of function is not occurring. In those instances the concept of Extension and research working as partners needs improvement. As the sophistication of research has grown, some researchers have expressed concern that county staff-ers need additional subject-matter training to handle this technical information (Feller, 1984). Agents counter that basic research must be made relevant to their needs and those of their clientele. It is likely that both positions have some merit.

In addition to tension between Agricultural Experiment Station researchers and university Extension specialists, tension also is apparent in some states between the state Extension specialists and the county staffs. The state specialists are integrated within departments (for the most part, with the exception of 4-H) and specialists report to departmental chairs. The criteria for advancement and promotion, while slightly different from that of the researchers, has evolved within the same context. In addition, their research colleagues provide letters of evaluation on their progress toward tenure and promotion.

The county staffs attempt to respond to the needs as expressed by their clientele. County staffs are closely tied to local people and need to keep good relations with the public. This makes them more responsive to clientele than to state and federal priorities. This is not to say that county staffs do not look to state specialists and researchers for their research-based information; they do. But county staff members move to the beat of the clientele drum and to a lesser extent to that of the academic community.

To further complicate the picture, private entrepreneurs are coming to the university to gain access to research results to provide to their customers. They have access to the same information as do Extension agents and they have retail outlets and distributors that sell commercial products to the same clients served by Extension. Some researchers may even utilize this private network more than they do Extension.

However, these private-sector information-distributors may not always present their information objectively. After all, their ultimate goal is to sell a particular product in order to make a profit.

EXTENSION IN AN INFORMATION SOCIETY

The United States is evolving from an industrial society to a knowledge production society (Masuda, 1980). The computer driven communications technology is bringing about an information era unlike any we have ever seen. Not since the advent of the telephone (Pool, 1983) have such profound changes taken place in American society. The trend is to substitute information for time, labor, and energy in the production of goods and services. For example, information is substituting for other inputs in secretarial work, industrial robots, conservation tillage, poultry production and agricultural pest management (Dillman, 1985).

The information age is dependent upon one's ability to transmit, access, and interpret the specific data that one needs. It also assumes a great deal of *trust* in the information and in the system. The ability to transmit a tremendous volume and variety of information has already become a reality and continues to improve daily. The issue of access is a matter of power and control. Interpretation involves the utilization of information through the understanding of risk and alternatives in a locality-specific context. The Extension Service has played and continues to play a role in these areas. However, with the availability of a multitude of public and private sources of information that can be delivered in a variety of ways, Extension is no longer seen as the only wellspring of knowledge. However, Extension may be seen as the most trusted localized educational outreach program.

Information Transfer

Technological transfer processes focus on the transmission of information to relevant clientele. For example, in the Land Grant system, entomologists test and make recommendations of various pesticides while plant breeders report on the results of varietal trials. A synthesis of the research findings is relayed to clientele by county Extension staff. The evolving technology of the information society facilitates the rapid, efficient and personalized communication of such information. The speed of information exchanged will become virtually instantaneous throughout the world for those with access. Due to new technology, the amount of information that can be transferred is limited primarily by the ability to receive, select, and process the data. With access to such systems, geographical and spatial barriers begin to disappear. Clientele interests may become divorced from spatially localized concerns. The lack of a spatial component and locality relevance could have negative consequences for rural America (Dillman, 1985). *Or, this new technology may offer fantastic new opportunities for Extension to provide interactive communication and the flourishing of locality-specific problem solving.*

Access and Control

A critical question is, who will control, use, and benefit from information systems? Ownership of capital resources is the strategic element of an industrial society, while access to information is the key to involvement in an information society. Access is determined by the type of delivery system used and the values underlying the communication network. Questions arise as to whether the system will be available to all persons who choose to use it. If not, what will be the barriers to utilization? As suggested in the test of a videotext system for Kentucky farmers, access will depend upon such factors as demand, pricing, context, profit, and desired equity (Clearfield and Warner, 1984). Such factors differ depending upon the overall purpose of the system and the values undergirding the system.

For example, if production and efficiency drive the information system, they will encourage larger, more cost efficient, more capital intensive enterprises. The information provided will be geared toward achieving such values. If the values of land sustainability and environmental quality drive the information system, the data provided may encourage smaller family oriented farms, organic farming, and less dependence on chemical fertilizers and pesticides. If cost-benefit values drive the information system, the data will encourage large-scale farming operations and deemphasize the quality of life and humanistic aspects. These examples are overly simplified statements to suggest how values drive information systems and can have profound effects on information utilization. The values underlying the information systems determine who accesses the information and how it is utilized. In most cases, it could be argued that Extension staffs are not overtly denying information access to anyone. But, the examples demonstrate that the very nature of the information itself influences who uses it. Extension staffs do not advocate specific products. Extension attempts to remain neutral, exposing clientele to various options and exploring alternatives. However, Extension is dependent largely upon information generated by the universities' research efforts; and extension county staffs have little impact on the values running the research system.

County agents do not have exclusive rights on or access to the information passed on to them. Researchers and specialists also provide their information to other delivery systems such as agricultural supply dealers, consulting firms, and garden centers. In fact, some research results find their way through the private system before they are communicated to county staffs.

INTERPRETATION

There often exists the notion that the major role of Extension agents is to communicate information on new procedures, equipment and the like. But as Knop and Knop (1984:8) clearly state:

> Extension is not simply supplying new techniques or technologies along with instructions for their use. It involves, rather, increasing people's appreciation for the new opportunities that innovations represent, while encouraging them to be bolder in their experimentation. Similarly, it ensures that people understand and can manage the maintenance of new procedures and that they anticipate possible complications arising from them, making people the masters of new techniques and technologies, rather than the reverse.

The key issue is to develop greater appreciation and utilization of county staffs as basic educators. Researchers may see county staff more as disseminators of information, than as educators. At the same time, Extension may have tried to do too much. The historical role of the county agent as one of the best educated persons in the county—as an exclusive source of answers to questions—has changed. Fortunately, rural America is not as isolated nor limited in access to needed information as it once was. But now, the Land Grant system must determine the proper balance between Extension and research in order to maximize the benefits from both. Neither research nor Extension can function effectively alone. Administrators of the Land Grant systems need to determine the appropriate mix of the two.

Extension provides up-to-date research-based information on a wide range of subjects in a personalized setting. But many agencies, organizations, and businesses provide comparable information. However, in addition to information provision, Extension serves the function of interpreter or of educator. Clientele often look to Extension to provide an objective, unbiased assessment of available information sources. Extension helps clientele sort through the tons of information available to find that part that is applicable to their needs. In short, Extension helps people make information useful. Perhaps the idea of trust that was an important component of the generational vignettes best describes the heart of the issue.

CONFIDENCE IN INFORMATION

Zand (1981) writes about the importance of developing *trust* in the knowledge society. Trust includes three elements: information, influence, and control. As we have already said, county Extension agents do not have a corner on the information market. Other sources are available. However, Extension staffs may operate with more complete up-to-date research-based information, a better awareness of the risks, a more complete set of alternatives, and a sensitivity to changing conditions impinging on the situation. Also like other sources, Extension has control, to a certain extent, over what information is made available. But as a public agency, Extension works hard at making programs available to everyone and relevant to different audiences. However, what makes Extension truly unique is its influence. It is not selling products or services, nor promoting an approach or procedure. Rather, it is stimulating behavioral changes in people because of the personal confidence these persons place in Extension agents.

Extension's business is *education*. In that role it develops a mindset for decision making, sets forth alternatives for action, advises rather than persuades. This sense of confidence in Extension information is grounded in personal interaction. The impersonality of technology is humanized through personalized interpretations and education at the local level. Thus, Extension, like other organizations, depends upon research for its source of information. However, what is unique is the confidence and trust Extension has generated with its clientele. Extension provides the touchstone of reality, the personality in technology. That quality allows the Extension agent to be an educator, an interpreter, and a disseminator of data.

If county staff members are not providing relevant and timely information, if they do not have access to innovative ideas, if they are not seen as outstanding educators in the county, they will not have the trust and respect of the people. County staff workers who are seen as just another information disseminator who hands out pamphlets, gives advice on fertilizing lawns and gardens, and holds meetings for "expert" speakers from the state university, may not survive in an information society. Such information disseminators abound. A multitude of similar public and private sources already exist. The subject matter of Extension will change but Extension must continue its unique role of providing locality-specific education if it is to survive and grow.

Just as my great grandmother took three months to travel by wagon train to the West coast and grew up depending on Extension, my grandchild likely will find Extension at the forefront of educational outreach programs beyond our planet. Will Extension be around 50 years from now? The future of Extension is being recast today (see Christenson and Warner, 1985). I believe that if Extension can maintain its focus on education—with access to innovative ideas and with an ongoing trust relationship with local clientele—it has a secure tomorrow. Respect as educators along with access to unique research information through a close university partnership are keys to propel Extension into the future.

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